The Leap from E-Filing to E-Briefing

Recommendations and Options for Appellate Courts to Improve the Functionality and Readability of E-Briefs

2017

Table of Contents

Page

Introduction: The evolution from e-filing to e-briefing 3

Chapter 1: Tablets and annotation software 5

Chapter 2: *Pro se* litigants 12

Exceptions for *pro se* litigants 12

Chapter 3: File formatting 13

Searchable PDF (official court record) 13

Non-fixed format file (optional secondary filing) 18

Visual images embedded in briefs 22

Chapter 4: Readability 24

Word limits versus page limits 24

Text density (line spacing, margins, and alignment) 25

Font and font size 29

Emphasis 33

Chapter 5: Internal navigation 36

Page or paragraph numbering 36

Bookmarks and internal hyperlinks 38

Chapter 6: Hyperlinks to legal authorities, record materials, and the Internet 41

External versus internal hyperlinks 41

Hyperlinking of legal and record citations by the court 42

Hyperlinking of legal citations by filers 43

Hyperlinking of record citations by filers 45

Hyperlinking to the Internet by filers 50

Hyperlinks in the "brief of record" 50

Chapter 7: Best practices for implementation 52

Rulemaking 52

Interim rules, administrative orders, and public announcements 53

Phased introduction 55

Training and Education 56

Appendix: Key authorities and additional resources 58

Introduction:
The evolution from e-filing to e-briefing

In the past two decades, a substantial shift has occurred in our nation's appellate courts with respect to how documents are filed and read. The federal judiciary led the way on this technological journey with its approval of PACER (Public Access to Court Electronic Records) in 1988 and adoption of CM/ECF (Case Management/ Electronic Case Files) in the 1990s. Electronic filing or "e-filing" is now mandatory in all federal courts and many state courts. Between 2010 and 2014 alone, the number of state appellate courts that require or permit e-filing more than doubled from 15 to 33 states. While substantial variations remain among courts as to the specifics of e-filing, the fundamental concept of e-filing has become widely accepted.

Four principal drivers underlie the move from paper filing to e-filing. First, e-filing and electronic dockets increase transparency and public access to the judicial system. Second, e-filing reduces administrative costs for courts and parties, including filing, processing, and storage costs. Third, e-filing makes it possible for judges, court staff, and parties to access briefs and supporting material on tablets and other highly portable electronic devices. Fourth, judges, court staff, attorneys, and clients live in a world that is increasingly electronically based, and they expect the judicial system to evolve to fit into that world, even if the evolution is relatively slow and cautious.

Given the benefits of e-filing and its sheer momentum in recent years, it is likely that all or nearly all jurisdictions will have appellate e-filing within the decade. That begs the question: what next?

The basic technology of e-filing has been developed. Judges and court staff are increasingly comfortable with the idea of reading and annotating briefs and other filings electronically. Many courts now issue tablets to appellate judges as a matter of course. Attorneys also are more proficient in using computer software to prepare briefs.

These changes have laid the foundation for the next leap forward: from briefs that are filed electronically but otherwise functionally identical to traditional paper briefs (e-filing) to *truly electronic briefs* that not only are filed electronically but offer internal and external functionality that paper briefs lack (e-briefing). This is the next frontier—making e-briefs *better* than paper briefs. Briefs that are not only more accessible, portable, and storable than paper briefs, but actually better to read and use than paper briefs.

This report focuses on e-briefing, not e-filing.[1] It identifies and discusses issues that have a significant impact on the functionality and readability of e-briefs. If a strong consensus has emerged on an issue, a ***recommendation*** is made and explained. If no consensus exists or an issue is more a matter of preference, then ***options*** are presented, including pros and cons.

The aim of this report is not to tell individual courts what to do, but rather to provide information about ways to make e-briefs more functional, more readable, and more helpful to judges and court staff who read them, often with collateral benefits for parties and their attorneys. Different jurisdictions will have different timelines, resources, perspectives, and preferences as they move from e-filing to true e-briefing. In the same vein, someone reading this report in Texas—a jurisdiction on the forefront of e-briefing—likely will have a very different perspective from someone reading it in a jurisdiction that has adopted e-filing only recently.

Please use this report to start or continue the conversation in *your* jurisdiction about how to make e-briefs better.

---

[1] For an excellent discussion of e-filing, including mechanics and vendors, see National Conference of Appellate Court Clerks (NCACC), *E-Filing in State Appellate Courts: An Updated Appraisal*, at 4-16 (2014), http://www.appellatecourtclerks.org/publications-reports/docs/NCACC_E-Filing_White_PaperSeptember2014.pdf.

Chapter 1:
Tablets and annotation software

1. ***Recommendation*: When adopting electronic filing, think ahead and plan for how judges and staff will access documents.**

A potential pitfall when adopting e-filing is to focus on the filing mechanism (how parties will e-file documents) and the court's storage system (how the court will store e-filed documents) without giving adequate consideration to the user end (how judges and staff will work in an electronic environment). Without careful planning, judges and staff may find themselves continuing to work in paper, even when documents are filed electronically, because they cannot readily access the case materials on their tablets or other electronic devices.

Thinking ahead to how judges and staff will access and work with documents, and ensuring a functional electronic work environment, is a critical foundation for the transition to e-briefing. One good example is the Fifth Circuit, which uses an iPad application that integrates with its case management system and automatically synchronizes all of the judges' cases, memoranda, and drafts to their iPads.

2. ***Recommendation*: When deciding which electronic reading platforms to provide to judges, consider the differences among devices (*e.g.*, desktop computers, laptops, and tablets) as relevant to readability and functionality.**

The readability and functionality of an e-brief are closely linked to the hardware and software on which it is read. In the transition to e-briefing, it is important for courts to consider the pros and cons of different reading platforms, especially tablets, in selecting technology for judicial use. Similarly, different annotation programs offer different benefits with respect to ease of use, functionality, speed, and other features.

Standardization is a related issue. Different readers may have different preferences, and courts must decide to what extent they will accommodate individual preferences in hardware and software. For example, some courts supply whichever device or annotation software each judge requests. This maximizes individual comfort but may create challenges regarding technical support and training. Other courts issue a standard tablet with standard annotation software to every judge. This simplifies technical support and training but may engender greater resistance from individual judges who do not like the chosen standards. There is no one right answer. Generally speaking, however, some standardization makes it easier to provide good support and training, which in turn is important for reader satisfaction as discussed in the next recommendation.

3. ***Recommendation*: Recognize that the ability to annotate in a satisfactory manner may be a key factor in judicial acceptance of e-briefs. Provide appropriate annotation software and adequate training on that software.**

Regardless of an individual jurisdiction's approach, it is important to provide adequate training and support to judges and court staff who read briefs electronically, especially on tablets. Lack of understanding and familiarity with the features of particular devices or particular annotation software, and the resulting inability to read and annotate briefs in a satisfactory and efficient manner, is a source of potentially severe frustration when working with e-briefs.

4. ***Recommendation*: Share information with other courts about what e-briefing hardware and software the court has adopted. Also, publicize on the court's website (or elsewhere) how judges and staff read briefs.**

Information about how briefs are read in different appellate courts often is not readily available. Knowing which systems, devices, and software other courts have adopted is especially useful to courts that are new to e-briefing, need to understand their options, and may want

to speak with other courts about their decision-making processes or experiences with particular hardware or software. This information should be more readily available.

Similarly, knowing what devices judges will be using to read briefs is helpful to attorneys who want to optimize the appearance and functionality of their briefs. If an attorney knows that all of a court's judges use iPads to read briefs, then the attorney is more likely to file a brief that is optimized for reading on an iPad, even if it would not look as good on paper. Conversely, if an attorney knows that some judges are reading on iPads but that others are still reading on paper, then the attorney may be more likely to file a brief with more traditional formatting. Publicizing this information is recommended, particularly as attorneys become more sophisticated about e-briefing.

The following table summarizes the tablets and annotation software that appellate courts are *currently* issuing to judges and, in some courts, staff attorneys. This information was obtained from the courts, and it is court-specific, not judge-specific. Some judges may not use a tablet even if one is provided, while others may purchase a tablet out of pocket if the court does not provide one. As this information is inherently prone to becoming outdated, it is intended only to show current usage and trends. "None" means that the court does not issue tablets to judges. "Unknown" means that the court either did not return calls for this information or, in a few cases, declined to provide it—which itself demonstrates how difficult it can be for filers to learn how judges are reading and interacting with their e-filed briefs.

Tablets and annotation software issued to judges in federal and state appellate courts, 2016

Federal Appellate Courts		
	Standard Tablet	**Standard Software**
First Circuit	iPad	Documents by Readdle PDF Expert
Second Circuit	iPad	PDF Expert iAnnotate PDF
Third Circuit	iPad	Good Reader
Fourth Circuit	iPad	Good Reader
Fifth Circuit	iPad	Adobe Acrobat Reader iAnnotate PDF
Sixth Circuit	iPad	Good Reader
Seventh Circuit	none	none
Eighth Circuit	iPad	Adobe Acrobat Reader
Ninth Circuit	iPad (most common) Surface	GoodReader (preferred) Adobe Acrobat Reader
Tenth Circuit	iPad (most common) Surface	GoodReader WPD Reader
Eleventh Circuit	iPad	Adobe Acrobat Reader GoodReader PDF Reader
D.C. Circuit	judge's choice	unknown
Federal Circuit	iPad	Adobe Acrobat Reader
Armed Forces	none	none
State Appellate Courts		
	Standard Tablet	**Standard Software**
Alabama	none	none
Alaska	none	none

Arizona	iPad Android Surface	Adobe Acrobat Reader iAnnotate PDF GoodReader
Arkansas	unknown	unknown
California	iPad Surface	Adobe Acrobat Reader Adobe Acrobat Pro iAnnotate PDF GoodReader
Colorado	iPad	GoodReader
Connecticut	none	none
Delaware	judge's choice	unknown
District of Columbia	none	none
Florida	iPad	Adobe Acrobat Reader
Georgia	none	none
Hawaii	none	none
Idaho	none	none
Illinois	iPad	Adobe Acrobat Reader
Indiana	Revolve iPad Pro	Adobe Acrobat Reader
Iowa	judge's choice	unknown
Kansas	none	none
Kentucky	none (coming soon)	none
Louisiana	none	none
Maine	none	none
Maryland	iPad	Adobe Acrobat Reader PDF Reader GoodReader
Massachusetts	Surface	Adobe Acrobat Reader PDF Reader
Michigan	Surface	Adobe Acrobat Reader iAnnotate PDF GoodReader

Minnesota	Surface Pro iPad Pro	Adobe Acrobat Reader iAnnotate PDF GoodReader
Mississippi	iPad	none
Missouri	iPad	Adobe Acrobat Reader EzPDF Reader iAnnotate PDF PDF Reader
Montana	Surface	unknown
Nebraska	iPad	unknown
Nevada	none	none
New Hampshire	none	none
New Jersey	none	none
New Mexico	none	none
New York	none	none
North Carolina	Helix	Adobe Acrobat Reader iAnnotate PDF PDF Reader
North Dakota	iPad	Adobe Acrobat Reader iAnnotate GoodReader PDF Reader
Ohio	none	none
Oklahoma	none	none
Oregon	iPad	Good Reader iAnnotate PDF PDF Expert Acronis Access (future)
Pennsylvania	iPad	Acronis Editor
Rhode Island	none	none
South Carolina	iPad	GoodReader
South Dakota	iPad	West Drafting Assistant Adobe Acrobat Reader

Tennessee	iPad	Adobe Acrobat Reader iAnnotate PDF
Texas	iPad	Adobe Acrobat Reader iAnnotate PDF GoodReader
Utah	iPad	none
Vermont	none	none
Virgin Islands	iPad	Adobe Acrobat Reader
Virginia	Surface	Adobe Acrobat Reader GoodReader
Washington	iPad Surface (pilot)	Adobe Acrobat Reader
West Virginia	none	none
Wisconsin	none	none
Wyoming	iPad	unknown

Chapter 2:
Pro se litigants

Chapters 3 through 6 of this report provide recommendations and options for courts seeking to transition from e-filing to true e-briefing. One issue that must be considered with respect to any new court requirement is the effect on *pro se* litigants and the extent, if any, to which *pro se* litigants will be exempted from the requirement. The following recommendation applies to Chapters 3 through 6.

Exceptions for *pro se* litigants

> ***Recommendation*: Decide whether and to what extent *pro se* litigants will be exempted from any new e-filing or e-briefing requirement**.

The extent to which *pro se* litigants should be exempted from court rules and requirements is an individualized decision that each court must make based on its own assessment of the relative benefit to the court and burden to *pro se* litigants. The recommendations and options in this report focus on represented parties, so *pro se* exemptions may not be discussed in individual sections. However, it is assumed that they will be considered and addressed before any new requirement is actually adopted.

Chapter 3:
File formatting

The format of an e-brief significantly impacts how readers see it. It also determines the extent, if any, to which a reader is able to modify the brief's visual appearance, copy from its text, and make certain types of annotations.

Searchable PDF (official court record)

1. ***Recommendation*: Require that all documents be filed in PDF format. The filed PDF should be designated as the official court record**.

The official court record should be in a fixed format. Among fixed format options, PDF (Portable Document Format) is the most common, is easy to generate, and has good annotation options for courts that do not purchase annotation software. All or nearly all courts that require or allow e-filing have adopted PDF as the required format. *See* NCACC, *E-Filing in State Appellate Courts: An Updated Appraisal* at 4-5 (2014), http://www.appellatecourtclerks.org/publications-reports/docs/NCACC_E-Filing_White_PaperSeptember2014.pdf.

An "archival" version of PDF exists called PDF/A. PDF/A is based on the International Organization for Standardization's ISO 19005 and imposes certain restrictions to avoid dead links and otherwise ensure that a brief will appear exactly the same for all of time. For example, PDF/A prohibits external links, video, audio, and encryption, and it requires embedded fonts. The federal courts intend to transition to PDF/A. https://www.pacer.gov/announcements/general/pdfa.html. At least one state, California, prohibits filing documents in PDF/A format. http://www.courts.ca.gov/24590.htm.

PDF/A is incompatible with certain e-brief functionalities. For example, it would be contradictory to require or allow hyperlinking to the external trial court record or Westlaw, but require filing in PDF/A,

because PDF/A does not permit external links. Similarly, it would be contradictory to encourage embedding key video or audio evidence in appellate briefs, but require filing in PDF/A, because PDF/A does not permit video or audio content.

On the whole, this report recommends allowing external links and audio-video content in appellate briefs—with certain significant restrictions that substantially address the same concerns as PDF/A—which is effectively a recommendation against PDF/A. However, some courts have already adopted PDF/A, and others may decide to do so because they believe that the benefit of using PDF/A for court filings outweighs the loss of certain capabilities for e-briefs. The point is that if PDF/A is required instead of PDF then the court should ensure that its other requirements are consistent with PDF/A.

2. *Recommendation*: Require that briefs and motions be converted to PDF rather than scanned to PDF.

There are two ways to create a PDF. One is to scan a paper document on a commercial copier or stand-alone scanner. The other is to convert the document to PDF electronically, either within the word processing program itself (such as Microsoft Word) or using PDF conversion software.

Converted PDFs are greatly superior to scanned PDFs. A converted PDF is *more legible* than a scanned PDF. A converted PDF is *fully text searchable*, whereas scanned PDFs vary greatly in text searchability. A converted PDF also allows for *retention of bookmarks and hyperlinks* generated in the word processing program, whereas a scanned PDF does not. *See, e.g., Attorney Guide to Hyperlinking in the Federal Courts*, http://federalcourthyperlinking.org/attorney-guide-to-hyperlinking, at 30 (Word version) or 28 (WordPerfect version).

When a jurisdiction first adopts e-filing, filers may not be familiar with the difference between a scanned PDF and a converted PDF. This may result in the receipt of a large number of scanned PDFs.

Education and strict enforcement are the best ways to achieve compliance after imposing a requirement for converted PDFs.

Requiring converted PDFs (instead of scanned PDFs) is not burdensome on litigants, once litigants understand the requirement exists. It is easy to convert a word processing document to PDF. In fact, it is *easier* than scanning the document to PDF, which requires separate equipment. To convert a word processing document to PDF, the filer need only "Save as PDF" in the word processing program. (The option to "Print to PDF" also creates a converted PDF but may cause loss of bookmarks.)

If PDF/A is required, most word processors also include an option to save as PDF/A, sometimes labeled "ISO 19005-1 compliant." In addition to the free option of saving to PDF/A from the word processor, the conversion may be done in paid software, such as Adobe Acrobat Pro (but not the free Acrobat Standard).[2]

3. ***Recommendation*: Require that appendices be scanned to PDF with OCR text searchability, or, if feasible, compiled using natively converted PDFs if available.**

An appendix is, by definition, a compilation of existing materials. Some materials included in an appendix may be available to the filer as native files that can be converted directly to PDF. Other materials may be available only as paper copies, in which case scanning them to PDF with optical character recognition (OCR) is the only way to make them text searchable.

In setting filing requirements for appendices, at a minimum, courts should require that appendices be scanned to PDF with OCR so that they are text searchable. Using this method, the filer compiles the

[2] For Mac users, note that an issue exists regarding loss of hyperlinks when converting Word documents into PDF from Word. Fortunately, Microsoft appears to have fixed this issue in Word 2016 for Mac.

appendix as a paper document, and then scans the entire appendix to PDF with OCR on a commercial copier or other device.

Modern OCR is typically fairly reliable when run on high quality scans. However, text searchability may be very poor if a document has been copied multiple times, contains handwriting, or otherwise is difficult for the OCR software to "read" accurately. Accordingly, it is worthwhile to train and periodically remind judges and court staff of the limitations of scanned PDFs.

If a court wants to maximize text searchability of appendices, then requiring a more tailored approach to compiling appendices may be warranted. Rather than scanning the entire appendix as a paper document, the court may require or encourage filers to compile any appendix from the best available PDF for each item in the appendix. Using this method, the filer assembles the appendix electronically, using native file conversions if available, otherwise using paper scans with OCR, and combining all the individual PDFs into a single PDF for filing. This approach is more time-consuming than scanning the entire appendix as one PDF with OCR. Whether it is worth requiring or encouraging it likely depends on the court's satisfaction level with OCR scanning. If a court wants maximum text searchability of appendices, it may be desirable to do so.

4. ***Option*: Require that the appendix be filed with the brief as a single PDF.**

Filing the brief and appendix together as a single PDF facilitates the use of bookmarks and internal hyperlinks to provide automated links between citations in the brief and key record materials. The benefits of bookmarks are discussed in Chapter 4, and the benefits of hyperlinks are discussed in Chapter 5.

In courts where filers cannot hyperlink directly to the electronic trial court record, internal hyperlinking to an appendix of key record documents may be the most desirable alternative, and filing the brief and appendix together as a single PDF is a necessary predicate to

creating such hyperlinks. If bookmarking and/or internal hyperlinking to the record appendix is permissive rather than mandatory, then it is only necessary to *permit* the brief and appendix to be filed together as a single PDF. However, some courts may find it desirable to impose a uniform standard that *requires* filing a single PDF, even if bookmarking and hyperlinking are themselves permissive. In either scenario, it is possible the court may need to increase file size limits.

5. *Recommendation*: Provide a reasonable time period for filers to correct formatting deficiencies.

Courts that adopt e-filing must decide how to deal with deficient documents.

Rejecting the filing outright is harsh and arguably unfair if the rejection notice is not immediate and does not give the filer time to refile before the due date. The risk of rejection may cause filers extreme stress, and motion practice related to late filings after an initial rejection may be burdensome on the court.

The better practice is to issue a deficiency notice that specifies the deficiency and provides a reasonable period, such as 3, 5, or 7 days, to refile to correct it. If possible, the notice should be issued at the same time as or in lieu of rejection. For example, when appellate e-filing began in Oregon, the software automatically "rejected" filings in an incorrect format, and then a court clerk later sent a deficiency notice giving the filer a specified period to correct. In response to the anxiety that "rejection" caused e-filers, especially less experienced e-filers, the courts eventually changed the software. All filings are now "accepted," and deficiencies are addressed through deficiency notices.

The deficiency notice also should specify the effect of the deficiency on the due date for any responsive filing. For example, if a court rule provides that an Answering Brief is due 30 days after the filing of the Opening Brief, and the court issues a deficiency notice for the Opening Brief in a given case, the deficiency notice should clarify when the 30-day clock for the Answering Brief begins running.

Non-fixed format file (optional secondary filing)

1. ***Option*: In addition to the PDF of record, allow parties to file an optional second copy of filings in a non-fixed file format. If the e-filing system only accepts PDFs, specify the means of transmitting the second file to the court.**

PDF is the best choice for the official court record. PDFs were invented in the early 1990s to allow the creation of an exact electronic replica of a paper document. Because PDF is a fixed format, it provides a nearly unimpeachable "original" of what was filed, and it ensures that everyone has access to an identical copy of every filing.

At the same time, the fact is that non-fixed file formats offer some significant advantages over PDFs. The advantages of non-fixed file formats to the courts, counsel, and the public include the following.

Customized viewing. A major advantage of a non-fixed file format is that it allows readers to tailor how the display of a document to their individual reading preferences. This includes using different settings on different devices if desired. A person's preferred settings likely will vary among a 20" computer monitor, a 10" tablet screen, and a 5" smartphone screen—all of which may be used to read a particular document at different times. Some of the display features that may be customized in a non-fixed format document are:

- font type (*e.g.*, Century, Book Antiqua, Times New Roman)
- font size (*e.g.*, 12 point, 14 point)
- line spacing (*e.g.*, single spaced, 1.5 spaced, double spaced)
- margins (*e.g.*, 0.5", 1", 1.5")

Ability to copy and paste. The static nature of PDFs complicates the use of automated processes. A common example relevant directly to judges and court staff is the ability to copy and paste accurately from a PDF. PDF software may interpret the end of a line as the end of a paragraph and insert "pseudo paragraphs" at each line break. Any

line numbering also will be picked up when copying and pasting. As a result, someone who copies and pastes from a PDF, while drafting an opinion for example, may have to edit the copied text significantly before it accurately reflects the original. By contrast, it is easy to copy and paste from non-fixed file formats.

More accessible documents. Automated processes do not work well on PDFs. Public interest groups, third-party service providers, and others who seek to make legal content readily available online have difficulty processing PDF documents for wider distribution. Machines that conduct big-data analysis also have difficulty parsing PDFs for statistical analysis. By contrast, documents in a universal non-fixed file format, such as HTML, are much easier to process and make accessible. This allows wider distribution of information about cases, which benefits courts, attorneys, and clients by making the legal system more transparent. *See, e.g.*, the Free Access to Law Movement, http://www.fatlm.org; Cornell's Legal Information Institute, https://www.law.cornell.edu; Harvard's Open Law Project, http://cyber.law.harvard.edu/openlaw; Public.Resource.Org, https://public.resource.org; the Free Law Project, https://free.law; and the Center for Computer-Assisted Legal Instruction http://www.cali.org.

Given these advantages, it is recommended that courts require parties to file a PDF of every filing as the official court record, but consider allowing parties to file an *optional* second non-fixed file format version as well. The procedure for transmitting the non-fixed format version to the court and other parties will need to be specified, particularly in courts in which the e-filing system accepts only PDFs. For example, the court might require that the non-fixed format version be emailed to a specified court email address, with all other parties in the case copied (cc'd) on that email, within two hours of the official PDF filing. For service, it would be simplest if all filers were required to have an email address on file with the court, but, if necessary, conventional service could be made using a CD or thumb drive.

If parties are permitted to file a secondary copy of a filing in a non-fixed file format, the court should specify which non-fixed file formats it will accept. Taking into account cost and access, the most attractive non-fixed file formats are HTML, DOCX, and RTF, each of which is discussed in the following sections. Other formats, such as e-book formats, are less accessible to the public, may be closed systems rather than open standards, and currently offer nominal benefits over more common formats.

2. ***Option*: Allow HTML as a permissible format for optional non-fixed format filings.**

HTML is a proven format that has existed for more than 20 years. It is most commonly associated with the Internet. As a non-fixed file format, HTML permits text wrapping to fit any screen. HTML eliminates page breaks, which are unnatural and unnecessary when reading on screen. HTML allows the reader to adjust nearly every aspect of the reading experience, including font size, font type, line spacing, margins, etc. One expert has concluded that an HTML file is 300% more usable than a PDF file when reading on screen. Jakob Nielsen, *Avoid PDF for On-Screen Reading*, Nielsen Norman Group (Jun. 21, 2001), https://www.nngroup.com/articles/avoid-pdf-for-on-screen-reading.

HTML is universal and ubiquitous, so virtually anyone with word processing software will be able to save as HTML, and HTML files are readable on virtually every tablet and electronic device. In some word processing software, conversion to HTML may modify the appearance of text or images relative to the native file or the PDF. Such conversion issues are of minimal import and are in the nature of using an adaptive format. By analogy, webpages written in HTML rarely look identical to any two Internet users, because appearance depends on the reader's device (*e.g.*, monitor, table, or phone), browser (*e.g.*, Safari, Internet Explorer, Chrome, or Firefox), and operating system (*e.g.*, Mac, PC, iOS, or Android). HTML conversion is not intended to replicate the static view of a PDF.

One potential issue with HTML-formatted briefs, which court rules or guidelines may need to address, is that HTML-formatted briefs containing images, graphics, or other multimedia features may not present as a single file for upload. It may be necessary to submit them on a thumb drive or via a secure download link provided by the filer.

3. ***Option*: Allow DOCX (Microsoft Word) and RTF (rich text format) as permissible formats for optional non-fixed format filings.**

DOCX and RTF are the two most common word processing formats. Like HTML, they allow readers to customize the viewing experience, including font type, font size, line spacing, and margins, in order to suit individual preferences and particular devices. Like HTML, DOCX and RTF are much more accessible (for those with disabilities) and machine-readable (for data analysis) than PDF.

A distinct advantage of DOCX and RTF over HTML is that most e-filers are more familiar with (and therefore more comfortable with) DOCX and RTF than HTML.

DOCX is the most common file format used by attorneys to create briefs. Most attorneys use Microsoft Word, and all versions of Microsoft Word since 2007 save documents in the DOCX format by default. As such, most attorneys who file documents in appellate courts already have a DOCX version of their brief. Less common word processing programs like WordPerfect and LibreOffice do not save automatically to DOCX format but offer the option to "Save as DOCX" and thus allow for easy conversion.

As for RTF, the RTF format is nearly 30 years old and relatively well known. It was created to enable document interoperability between programs and is supported by every major word processor.

That said, DOCX and RTF are not as truly universal as HTML. Because HTML is the Internet's backbone, it can be read on any

electronic device. By comparison, although DOCX and RTF are extremely common, some devices might not be able to read them.

Finally, metadata may be an issue with native word processing files. For example, if an attorney uses Word's "Track Changes" feature while drafting a brief, the native file may include metadata that reveals omitted language or attorney or client commentary on an earlier draft. This is less of an issue in HTML format, which either does not retain metadata or makes it more obvious upon conversion. Accordingly, if DOCX or RTF filings are permitted, the court should remind attorneys to strip any privileged or work product content out of the file, such as by using Word's built-in "Document Inspector" feature or similar third-party products. *See, e.g.,* Microsoft, *Remove hidden data and personal information by inspecting documents*, https://support.office.com/en-us/article/Remove-hidden-data-and-personal-information-by-inspecting-documents-356b7b5d-77af-44fe-a07f-9aa4d085966f. The court might provide a checkbox on the filing screen to confirm that any confidential metadata has been removed.

Visual images embedded in briefs

***Recommendation*: Adopt rules or guidelines for embedding visual images, such as videos, photos, and maps, in briefs.**

It is often said that a picture is worth a thousand words. A well-chosen graphic, photograph, chart, map, video, or other multi-media object can communicate important information and improve reading comprehension. Visuals also break up blocks of text, enhancing the overall reading experience. For a general discussion of the benefits of visuals in appellate briefs, see Robert Dubose, *Briefing Visually*, presentation at University of Texas School of Law 26th Annual Conference on State and Federal Appeals (Jun. 9-10, 2016), https://utcle.org/elibrary/download/a/38574/p/1.

Embedding images is fairly simple and is a standard feature in most software used to create e-briefs, including Word, WordPerfect, Open Office, and PDF creation software.

The following are some issues to consider in deciding whether to prohibit, allow, or encourage the use of embedded images in briefs.

First, embedded images increase file size, so file size limits necessarily limit the extent to which visual images can be embedded in a given filing.

Second, the "word count" tool in word processing software does not capture words contained in an embedded visual image. The simplest solution to this issue is to require filers to manually count and add any words contained in an embedded visual image to the brief's word count. The court should consider whether to include or exclude words spoken in an embedded video from that requirement.

Third, the court may wish to prohibit certain types of embedded images. Images and videos that are not in the trial court record generally should not be embedded. It also may be appropriate to prohibit videos of witness testimony, except in the rare case that the appellate court is permitted to assess credibility (which is never in many jurisdictions). Videos of witness testimony are particularly susceptible to word count abuse and increase file size without substantial benefit to the court. This is in contrast to embedding visuals and videos that are themselves key evidence—which may be very helpful to the court—such as a police dash-cam video, an accident scene photo, a graphic demonstrating how certain technology works, or a photo of property in dispute.

Fourth, most fixed visual images (such as photos) display reliably across different reading platforms. However, some videos may not display properly on some devices, depending on the particular hardware and software. Courts should be aware of this issue and provide guidelines or rules for embedded video files.

Chapter 4:
Readability

The visual dynamics of reading on screen are different from reading on paper. Most existing court rules regarding fonts, line spacing, and other formatting requirements are based on historic typesetting practices. These rules often produce briefs that look much better on paper than on screen. Even when most or all of a court's judges are reading briefs on tablets, parties often must file briefs that are ill-suited to screen reading. This has a negative effect on reading and comprehension. It also may cause readers to conclude erroneously that reading on an electronic device is inherently inferior to reading on paper and that little can be done about it. While some subset of readers may always prefer paper over screens, proper formatting of an e-brief can make a substantial difference in the reading experience.

The following recommendations emphasize improving readability on electronic devices, including desktop monitors, laptops, and tablets. At the same time, many of these recommendations also are beneficial when reading on paper and reflect readability research of general application that has emerged in recent decades.

Note that this report—*i.e.*, the report that you are reading at this very moment—follows all of the recommendations in this chapter.

Word limits versus page limits

***Recommendation*: Impose word limits, instead of page limits, for briefs.**

Many courts that once imposed page limits for briefs have switched to word limits. Word limits are superior from a readability standpoint in that they allow filers the flexibility to improve the visual appearance of a brief even if it results in a longer overall page length. Font size, font choice, line spacing, extra spacing before headings, and frequency of headings are all examples of formatting choices that may make a

brief more readable without changing the content. In other words, better formatting may change the page length, but not the word count. Courts concerned with improving the readability of e-briefs may want to switch from page limits to word limits, if they have not already.

Text density (line spacing, margins, and alignment)

1. ***Recommendation*: Consider the relationships among text density, readability, and annotatability when updating court rules regarding document formatting.**

Many courts have rules specifying minimum line spacing and margins for briefs and other filings. All or nearly all of these rules were adopted with paper briefs in mind and should be revisited as courts move to e-briefs.

In that process, it is important to consider the effect of *text density* on *readability* and *annotatability*. Margins and line spacing have a significant effect on text density, *i.e.*, the amount of text versus white space present in a reading area. Text density in turn has a significant effect on readability and annotatability. Generally speaking, when reading on a smaller screen such as a tablet, denser text is more readable—up to a point. At the same time, the optimal text density for reading may be too dense for optimal annotation, whether by stylus or pop-up text boxes.

Individual courts will need to strike their own balance between readability and annotatability, taking into account the screen size of devices provided by the court, the annotation software provided by the court, and how judges use the annotation software. For example, on the last point, if the primary annotation method is highlighting, then setting margins and line spacing for optimal text density may be fine. However, if the primary annotation method is text boxes, then larger margins may be helpful, depending on how the text boxes display. Or, if the primary annotation method is handwritten e-notes with a stylus, then larger margins and wider spacing may be desirable.

The next two options focus on optimal readability of fixed format PDFs read on tablets. Individual jurisdictions may wish to adopt greater line spacing and/or larger margins to improve annotatability, depending on hardware and software considerations and usage.

2. ***Option***: **Require 1.2x line spacing in filings. Allow extra space before headings and between paragraphs.**

Most appellate courts currently require briefs to be "double spaced." Double spacing is not ideal for reading on screen.

When courts began accepting typewritten briefs in the 1970s, they required double spacing because single spacing on a typewriter produced dense blocks of monospaced text that were very difficult to read. Typewriters offered only two type sizes—pica (10 characters per inch) and elite (12 characters per inch). The type was monospaced. And double spacing was the only alternative to very tight single spacing. Today, it is difficult to replicate how challenging it was to read single spaced monospaced text produced on a typewriter. "Single spacing" in computer word processing software is less dense than "single spacing" was on typewriters, and modern proportional fonts are far more readable than monospaced typewritten fonts were.

In terms of readability, ideal line spacing is closer to single spacing than double spacing. In Word and WordPerfect, setting line spacing at 1.2x approximates two points of leading between each line of text, which is the standard for professionally published books and scholarly journals, as well as United States Supreme Court briefs. *See* Sup. Ct. R. 33(1)(b). By contrast, "double spacing" in Word and WordPerfect is equivalent to 2.23x spacing, which is almost *twice* the professional standard. MATTHEW BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 137-38 (2d ed., O'Connor 2015). A modern "double spaced" brief has about half as much text per page as a 1.2x spaced brief, which results in a large amount of white space and necessitates twice as many swipes (page turns) to read the brief. Each page swipe disrupts reading and requires refocusing of the eyes.

Of course, even though experts suggest that 1.2x to 1.3x line spacing is optimal for readability, some courts may determine that greater line spacing is desirable and decide after experimentation to require 1.4x or 1.6x or 2.0x line spacing. Whatever the ultimate decision, line spacing should be considered as part of the discussion of e-brief requirements because it has a significant impact on readability.

Line spacing requirements also should be adopted hand in hand with margin requirements. If adequate margins are required (such as the 1.5" margins discussed in this report), then denser line spacing will improve reading and comprehension, while large margins will provide white space for readers to use when annotating the brief.

Finally, if denser line spacing is adopted, additional spacing before headings and between paragraphs should be allowed or encouraged. "Chunking" information in electronic documents makes them easier to read and improves comprehension. Robert Dubose, *Legal Writing for the Rewired Brain: Persuading Readers in a Digital World*, presentation at 2016 ABA Mid-Year Meeting (2016) ("Rewired Brain"). The use of frequent headings, with additional white space before them, helps readers understand the organization of the brief, allows for meaningful bookmarks, and helps focus the reader's attention. Solid blocks of text are more difficult to read on screen than on paper. The natural tendency when reading on screen is to read in an "F" pattern—*i.e.*, focus on the text at the top, middle, and left side of a document and skim the text located outside that area. Jakob Nielsen, *F-Shaped Pattern for Reading Web Content*, Nielsen Norman Group (Apr. 17, 2006), https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content. Headings and leading sentences, especially when set off by white space, focus and help keep readers' attention.

3. *Option*: Require 1.5" margins on all sides.

While an 8½" by 11" page is a reasonable size for a reference book, it is actually rather large for a lengthy legal brief intended to be read in a single sitting. The economy and convenience of using standard

letter-sized paper—and thus avoiding the complexities of booklet format, such as laying out signatures, trimming pages, and saddle stitching the booklet—justifies such an oversized page. *See* U.S. Government Printing Office Style Manual (30th ed. 2008). However, the largeness of the page should be considered in setting margins.

For a document with text in 12-point Century Schoolbook, the use of 1.5" margins produces a page containing 37 lines with an average of 66 characters per line, which is nearly "ideal" by typography standards. ROBERT BRINGHURST, THE ELEMENTS OF TYPOGRAPHIC STYLE, at 26 § 2.1.2, 39 § 2.2.3 (4th ed., Hartley & Marks 2012). The number of characters per line is an important factor for readability. BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 141. Wider margins also allow additional room for notations, both on paper and in most annotation software.

The typewriter standard of 1" margins on all four edges of the page results in excessive line lengths that reduce legibility and are especially difficult to view on mobile devices. *See* Ruth Ann Robbins, *Painting with Print: Incorporating Concepts of Typographic and Layout Design into the Text of Legal Writing Documents*, 2 J. Ass'n Legal Writing Directors 122-23 (2004) ("*Painting with Print*").

4. *Option*: Require left alignment of text.

Left aligned text is easier to read than justified text. Robbins, *Painting with Print*, at 130-31. Justification creates uneven spacing between letters and words, thus requiring constant visual adjustments and increasing eye strain, whereas left-aligned text uses the spacing of the font itself.

Readers accustomed to justified text in legal briefs may resist left alignment initially due to a subjective perception that it looks less professional. However, upon switching to left alignment, most readers quickly lose that perception. Some jurisdictions have overcome the historic habit of justification entirely, such as Oregon where left aligned text is the norm in state and federal court filings.

Font and font size

1. ***Recommendation*: Require use of a proportional font for body text that is easily legible on both paper and screens.**

Font choice is an issue that courts should consider as part of any formatting discussion related to e-briefing. Certain fonts are more readable than others, and the use of more readable fonts improves the reading experience both on paper and on screen. Existing court rules sometimes impede the use of more readable fonts. *See* Robbins, *Painting with Print*, at 108, 135-50 (collecting rules).

Monospaced fonts, such as Courier, resemble the output from a typewriter and should be avoided. Proportional fonts generally are more readable than monospaced fonts. *See* Robbins, *Painting with Print*, at 120-21; *Requirements and Suggestions for Typography in Briefs and Other Papers*, PRACTITIONER'S HANDBOOK FOR APPEALS TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT, at 132, http://www.ca7.uscourts.gov/forms/Handbook.pdf ("*Seventh Circuit Suggestions*").

It is debatable which proportional fonts are the "most" readable. This report uses Century Schoolbook, which, along with its sister fonts New Century Schoolbook and Century Expanded, is recognized as among the most legible and readable fonts. *See, e.g.*, BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 78-80; *Seventh Circuit Suggestions*, at 1325. These fonts are familiar to attorneys who practice in the United States Supreme Court. *See* Sup. Ct. Rule 33.1(b).

Any discussion of fonts would be incomplete without addressing Times New Roman. Times New Roman, a proportional font created in 1929 for the *London Times* newspaper, was the default font for virtually everything in the early era of computers. Because it was so ubiquitous, it remains the most common font cited in appellate rules and used in appellate briefs. BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 119. In recent years, Times New Roman has become somewhat

controversial, with some people staunchly defending it while others excoriate it with passion. At least some of the disdain for Times New Roman has more to do with it being "boring" than its readability—which may be a problem for a job resume but not so much a court filing. Nonetheless, it is worth at least considering allowing or encouraging the use of fonts other than Times New Roman in e-briefs. As Matthew Butterick puts it, today, "Times New Roman is not a font choice so much as the absence of a font choice, like the blackness of deep space is not a color." *Id.* "It's not that Times New Roman is a bad font. It's just that you can and should do better." *Id.*

In 2007, Microsoft abandoned Times New Roman as its default font and changed to Calibri. According to a manager involved in that decision, the primary reason for the default font change was to improve screen readability. Digital consumption was growing, and Microsoft recognized that more and more documents would be read only on screen, so a better font for screen reading was warranted. Joe Friend, *Why Did Microsoft Change the Default Font to Calibri*, FORBES (Dec. 18, 2013), http://www.forbes.com/sites/quora/2013/12/18/why-did-microsoft-change-the-default-font-to-calibri/#c0ec30016a41.

In determining which fonts the court will accept, note that sans serif fonts (which are blockier) were once considered better for e-reading than serif fonts (which have flourishes on the letters) because low pixel density made serifs difficult to render. However, advances in screen resolution have eliminated that issue. Century Schoolbook, New Century Schoolbook, and Century Expanded are all serif fonts. (For comparison purposes, in case you're curious, this sentence is in Arial, which is a sans serif font.)

Finally, courts may consider requiring filers to embed fonts in their documents to avoid any risk of font substitution. Font substitution occurs when the font used in a document is not loaded in the reader's PDF viewer, in which case the PDF viewer substitutes a different font. Minor substitutions may be annoying, while significant substitutions may make a document unintelligible. Embedding fonts is fairly easy.

For example, in Microsoft Word 2010, it is done by clicking "File," then "Options," then "Save," then "Embed Fonts in File." Embedding fonts increases file size but ensures that documents are readable. PDF/A automatically embeds fonts, so courts that require filings to be in PDF/A format need not separately require the embedding of fonts.

2. ***Recommendation*: Consider requiring 12 or 13 point for body text.**

Over the years, many courts have changed their rules to require 14 point font instead of 12 point font. *See*, *e.g.*, Fed. R. App. P. 32(a)(5). The most commonly cited reason is that it is easier on the eyes.

Readability experts tend to recommend using a smaller font size, typically 12 point, which is the standard for professionally printed publications. With a larger font, such as 14 point, less text fits on each page, more swipes (page turns) are necessary to read the document, and content is more dispersed. Keeping text together usually is better for comprehension. *See*, *e.g.*, Robbins, *Painting with Print*, at 86-89 (recommending 12 point).

At the same time, there appears to be substantial support among judges for requiring 14 point, including in e-briefs. As such, rather than recommend a particular font size, it is recommended only that courts seriously *consider* font size as part of the larger discussion regarding text density and readability.

In thinking about font size, many people automatically visualize Times New Roman. However, it is important to understand that different fonts look different in different font sizes. For example, Century Schoolbook is wider than Times New Roman, so 13 point Century Schoolbook looks similar to 14 point Times New Roman in terms of size, while 14 point Century Schoolbook is noticeably larger to the eye than 14 point Times New Roman. Again, it depends on the font.

Illustration:

The quick brown fox jumped over the gate *in 12 point Times New Roman*.

The quick brown fox jumped over the gate *in 12 point Century Schoolbook*.

The quick brown fox jumped over the gate *in 13 point Times New Roman*.

The quick brown fox jumped over the gate *in 13 point Century Schoolbook*.

The quick brown fox jumped over the gate *in 14 point Times New Roman*.

The quick brown fox jumped over the gate *in 14 point Century Schoolbook*.

Thus, if a court decides to change the font(s) that it requires or encourages for use in briefs, it also should consider font size and may find that 12 point or 13 point is a better choice for the selected font(s).

3. *Recommendation*: Require footnotes to be in the same font and font size as the body text.

Some courts permit footnotes to be in a smaller font size than the body text. In order to improve readability, footnotes should be in the same font size as the body text. Requiring the same font size also may discourage excessively long footnotes.

4. *Recommendation*: Allow headings to be in a different and larger font than the text.

Allowing headings to be in a larger font size and/or different font than the text helps headings stand out, which is useful because they organize the brief and provide visual cues for both paper and screen readers. *See* Robbins, *Painting with Print*, at 127, 133; BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 90-91, 109-10. For example, if the text is

in 12 point, then allowing 13 point or 14 point for headings will make the headings more prominent. Using a different font for headings—preferably a highly legible sans serif fonts such as Arial, Candara, or Helvetica—also makes the headings more prominent. Some courts already permit headings to be in larger sans serif font. *See*, *e.g.*, Fed. R. App. P. 32(a)(5).

5. ***Recommendation*: Encourage the use of "curly" or "smart" quotation marks and apostrophes rather than "straight" quotation marks and apostrophes.**

Most experts agree that curly quotation marks and apostrophes are better for readability than straight quotation marks and apostrophes. *See*, *e.g.*, SEVENTH CIRCUIT SUGGESTIONS, at 1335; BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 38-40. Curly quotation marks and apostrophes are available as a default setting in most word processing programs. Some manual correction may be necessary, such as when copying text from documents that use straight quotation marks and apostrophes or when using tick marks for measurements.

Emphasis

1. ***Recommendation*: Encourage use of boldface and italics for emphasis. Discourage use of underlining.**

Emphasis is an effective tool when used well. In terms of readability, most experts prefer **boldface** and *italics*, and they strongly disfavor <u>underlining.</u> *See, e.g.,* Robbins, *Painting with Print*, at 118-19; BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 81-82.

The choice between **boldface** and *italics* may be a matter of subjective preference. Some experts prefer boldface because it does not slow down reading, while italics do. *See* Robbins, *Painting with Print*, at 118-19. However, when emphasis is used sparingly, a writer may want to slow down reading for a few words, and some courts expressly prefer italics. *See*, *e.g.*, SEVENTH CIRCUIT SUGGESTIONS, at 133.

It is widely agreed, however, that underlining should be avoided. Underling disrupts letters that fall below the line (called descenders), such as the letters g, j, and y, which makes them less legible and therefore more difficult to read. SEVENTH CIRCUIT SUGGESTIONS, at 5; Robbins, *Painting with Print*, at 118; BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 74-75. This includes case names, which should be italicized rather than underlined to make them easier to read.

The one exception regarding underlining is hyperlinks, for which underlining is the accepted standard and should be allowed. BUTTERICK, TYPOGRAPHY FOR LAWYERS, at 81-82.

2. *Recommendation*: Discourage use of all capital letters.

TYPOGRAPHY EXPERTS AND COMMENTATORS RECOMMEND AGAINST THE USE OF ALL CAPITAL LETTERS. STUDIES SHOW THAT THE USE OF ALL CAPITAL LETTERS SLOWS DOWN READING AND THAT MOST READERS FIND ALL CAPITAL LETTERS MORE DIFFICULT TO READ THAN LOWER CASE TYPE. *See, e.g.,* SEVENTH CIRCUIT SUGGESTIONS, at 6; *Painting with Print*, at 133; Dubose, Rewired Brain, at 17.

THIS INCLUDES "SMALL CAPS," WHICH SHOULD BE USED ONLY FOR LEGAL CITATIONS AS REQUIRED BY THE BLUEBOOK, *E.G.*, BOOK TITLES.

3. *Recommendation*: Discourage use of title case (and all initial capitals) in headings.

Title Case, Which Is a Variation of All Initial Capitals, Is More Difficult to Read Than Sentence Case. *See Painting with Print*, at 118; Dubose, Rewired Brain, at 17; BRYAN A. GARNER, LEGAL WRITING IN PLAIN ENGLISH, at 150-51 (2d ed. 2013); Bryan A. Garner, *LawProse Lesson #183: What's wrong with initial-caps point headings?*, http://www.lawprose.org/lawprose-lesson-183-whats-wrong-with-initial-caps-point-headings.

While Title Case Is Not as Bothersome When Used Well in Short Headings, the Difference Is More Pronounced When Headings Are Longer or when Authors are Inconsistent about which Words are Capitalized. In Recent Years, There Has Been a Move Away From Title Case and Toward Sentence Case, Which Appears to Be Driven by Digital Publications. *See* BRYAN GARNER, THE WINNING BRIEF 431, 437 (Oxford Univ. Press 3d ed. 2014).

Sentence case is easier to read, including in headings.

Chapter 5:
Internal navigation

Navigating an e-brief is different from navigating a paper brief. The physicality of paper documents gives readers a natural sense of place that is lacking in electronic documents. *See* Ferris Jabr, *The Reading Brain in the Digital Age: The Science of Papers Versus Screens*, SCIENTIFIC AMERICAN (Apr. 11, 2013). It therefore is much easier to move around in a paper document without losing one's place than it is in an electronic document.

Internal navigation tools address this issue and make it easier to navigate e-briefs.

Page or paragraph numbering

1. ***Recommendation*: If page numbering is used, require a single pagination scheme that starts on the first page of the document.**

Currently, legal briefs are often paginated so that the page identified as page "1" is the first page of the substantive text, not the first page of the document. A typical example is a brief in which the cover or caption page has no page number, the table of contents and table of authorities have Roman numeral page numbering (i, ii, iii,…), and the body has Arabic numeral page numbering (1, 2, 3,…).

When a brief using this type of pagination is converted to PDF for e-filing, the Arabic page numbers used in the substantive part of the brief do not correlate to the PDF page numbers. For example, a page may be identified in the footer as page "15" but actually be page 21 of the whole document. Page 21 is the page number that will display in the PDF reader and that will be needed to jump to that page, yet page 15 is what it will say in the footer and in references in the table of contents and authorities. Using a different page number in the footer thus makes it more difficult to navigate within the PDF.

This unnecessary obstacle to internal navigation can be avoided by requiring a single run of pagination for the entire brief. The use of Arabic numbers that begin on the first page of the document and continue until the last page is recommended.

Courts that impose page limits instead of word limits may need to provide instructions to filers on this issue to avoid confusion. The separate pagination of cover pages and tables likely originated with page limits, as those sections are typically excluded from the page count. As discussed elsewhere in this report, word limits are generally better than page limits in facilitating improved formatting and readability of e-briefs.

2. ***Option*: Consider requiring paragraph numbering instead of or in addition to page numbering, especially for documents that will be filed in multiple formats.**

Paragraph numbering refers to the use of consecutive numbers at the beginning of each paragraph of the document. There are two main arguments for using paragraph numbering in e-briefs. First, when reading on a screen smaller than 8.5" x 11", paragraph numbering eliminates the need to scroll to find the page number. Second, when a document is filed in a non-fixed format, the page numbering changes with individual reader settings, so paragraph numbering provides a consistent reference point for everyone to use. Accordingly, courts may wish to consider requiring paragraph numbering instead of or in addition to page numbering, especially if briefs are filed both in PDF and a non-fixed file format such as HTML, DOCX, or RTF.[3]

---

[3] If a brief is filed in multiple formats, the pagination scheme should be the same in every version. In other words, a single brief should be drafted, using whatever pagination scheme is desired, and then that single brief should be saved into any and all appropriate formats for filing. In order to have different pagination schemes in different file formats, the filer would have to draft multiple briefs, which is undesirable for many reasons, including that it would make cross-reference between the versions difficult or impossible.

For numbering paragraphs in appellate briefs, Arabic numbering (1, 2, 3,…) is superior to decimal numbering (*e.g.*, 1, 1.1, 1.2,…). Arabic numbering is simple to use, can be set to update automatically in modern word processing systems, and is relatively easy to ignore. By comparison, decimal numbering is more complicated to create and thus prone to errors and inconsistencies, resists automatic updating, and can be distracting due to its length and variability. While decimal paragraph numbering does convey information about a document's organization, which may be useful to some readers, its multiple disadvantages outweigh that potential benefit.

Finally, note that some readers dislike paragraph numbering because it creates visual clutter. Moreover, that clutter is in a place where the reader's eye naturally gravitates: on the left side of the page and at the beginnings of paragraphs. That said, readers can learn to ignore paragraph numbering if the benefits are worth it. For example, paragraph numbering is common in complaints, answers, and requests for production, where the benefit of having the paragraph numbering for reference outweighs the disadvantage of having it when reading. Some courts may conclude the same for e-briefs, especially in connection with non-fixed file formats.

Bookmarks and internal hyperlinks

1. ***Recommendation*: Encourage or require bookmarks so that readers may see an outline of the brief in a side panel and jump to a particular section.**

A bookmark is a link that appears in the "Bookmarks" panel of most PDF-reader software. The "Bookmarks" panel usually appears to the side of the document or as a pop-up window in PDF-reader software. If the bookmarks correspond to the section titles and headings of a brief, readers can immediately see an outline of the brief and use the links to jump to particular sections of the brief without scrolling or entering page numbers.

When drafting a brief, the author can nest the bookmarks so that subheadings appear beneath headings in the "Bookmarks" panel. In some software, including Adobe PDF-reading software, the nested bookmarks can be collapsed (hidden) or expanded (displayed) by clicking a triangle or plus sign to the left of the bookmark. This allows the reader to customize the level of detail shown in the panel. The reader also can shorten or otherwise edit the description of the bookmarked locations in the PDF.

It is easy to create bookmarks using the "Styles" feature in Microsoft Word. Word's default "Headings" style may be modified to satisfy court requirements or suit personal preference by right-clicking on any style appearing in the Style Gallery and selecting "Modify." Using "Headings" style for section titles and subsection headings allows the author to generate a table of contents (with Word's "Table of Contents" menu option) and a bookmarked PDF file (with an option given when saving to PDF) with very few mouse clicks. While drafting and revising a brief, Word's "Navigation Pane" may be used to display items corresponding to the "Headings" style in a side panel. Those items will appear in the "Navigation Pane" in a manner similar to how they will appear in a "Bookmarks" panel in a PDF file.

Bookmarks also may be added manually. The process usually is simple, although it may be tedious for longer documents. In Adobe Acrobat, it is accomplished by clicking on a page and choosing "Add Bookmark." Other PDF-creation software has similar capabilities. Manual bookmarks may be necessary when compiling an appendix of record excerpts.

Readers may add, edit, or delete bookmarks if their software allows that option. For example, a given reader may want to bookmark a certain passage or key appendix document. The ability of readers to add, edit, or delete bookmarks is a useful tool, but it may warrant taking certain steps, such as: (1) maintaining a read-only copy of the brief so that the original bookmarks remain available; (2) not

considering bookmarks to be part of the substantive content of the brief; and (3) treating bookmarks as a supplement to, not a substitute for, the table of contents in the brief.

For more information on creating bookmarked PDF files, see Blake A. Hawthorne, *Guide to Creating Electronic Appellate Briefs* (2014), at 17-20, www.txcourts.gov/media/124903/guidetocreating electronicappellatebriefs.pdf.

2. *Recommendation*: Encourage internal hyperlinking within briefs.

When internal hyperlinks are used, the reader is able to move from one part of the brief to another by clicking on an object on the page. For example, if a page contains an internal cross-reference such as "*infra* Section IV," the reader can click on a hyperlink to go directly to Section IV. It also is possible to add more creative hyperlinks, such as including a "Back to TOC" hyperlink on each page of a brief so that the reader can always get back to the Table of Contents easily.

While internal hyperlinks are helpful, it is recommended that they be encouraged, not required, at this time. The advantages of internal hyperlinks are mitigated by the ability to achieve similar results using PDF bookmarks (as discussed in the previous recommendation) and by the ability to navigate with page numbers in most PDF software.

Chapter 6:
Hyperlinks to legal authorities, record materials, and the Internet

External versus internal hyperlinks

A hyperlink is a feature in an electronic document that allows the reader to jump to another place with only a mouse click.

Internal hyperlinking means that the hyperlink leads to another place in the same electronic file. A single file may contain multiple individual documents. For example, numerous documents may be combined into a record appendix that is then combined with a legal brief to create a single PDF for filing with the court.

External hyperlinking means that the hyperlink leads somewhere outside the confines of the file in which the hyperlink appears. For example, a brief may contain a hyperlink to a document in PACER, in which case clicking on the hyperlink takes the reader out of the brief and into the PACER system.

The materials cited in appellate briefs that are most attractive for hyperlinking are the *trial court record* and *legal authorities*. Having immediate access to the trial court record when reading briefs helps appellate judges ensure that record citations are accurate and fairly reflect the evidence. Rather than having to find a document in a stack of boxes that may be stored in someone else's office or a central file room, a mere mouse click is all that is needed to check the accuracy of a party's reference to the record. Similarly, hyperlinking to legal citations allows judges to look at a cited authority immediately after reading the argument for which it is cited.

This chapter discusses different ways to accomplish hyperlinking. Using hyperlinks, the entire universe of a case can be connected, which is one way to make e-briefs *better* than paper briefs.

Hyperlinking of legal and record citations by the court

In the last few years, a handful of courts have adopted software that scans every brief filed with the court and automatically generates hyperlinks to the trial court record and/or to Westlaw or LEXIS. The *court itself* generates the hyperlinks with this software, not the filers. Local rules mandate the citation format that filers must use, in order to ensure that the software recognizes the cites and creates accurate links. For example, Fifth Circuit filers must use the format "ROA.123" for record citations, which the software reads and knows to generate a hyperlink to page 123 of the record on appeal. As long as citations are in the correct format, the software does all the work.

The Fifth Circuit is the pioneer in automatic hyperlinking software for appellate courts. The software it uses, which Ken Russo created in 2013, has attracted national attention and is incorporated into the next generation of CM/ECF. It appears that this software will be more widely adopted in the federal appellate system over the next two years.

Currently, Texas appears to be the only state using software to add hyperlinks to appellate briefs after they are filed. The Texas software, which is limited to legal citations, was developed in consultation with Ken Russo and Lyle Cayce. Practical considerations, including budget issues, suggest that state courts will be slower than federal courts in adopting automatic hyperlinking software. Collaboration between different states and court systems, however, could speed adoption.

Software that adds hyperlinks after a brief is filed is a nearly optimal solution to providing reliable hyperlinks to the trial court record and legal citations, especially since it treats all filers equally. Until and unless such software is available in a given court, however, it may be desirable to require or encourage *filers* to hyperlink citations, so that the court may enjoy the benefits of hyperlinks. The following series of recommendations and options address hyperlinks added by filers, rather than the court itself.

Hyperlinking of legal citations by filers

Hyperlinked legal citations provide a convenient way for judges, court staff, and attorneys to have immediate access to legal authorities cited in an e-brief. The following recommendations and options are intended for courts that do not have software that automatically generates Westlaw or LEXIS hyperlinks after a brief is filed.

1. ***Recommendation*: Regardless of hyperlinking, require standard legal citation form.**

Any hyperlinked citations should be in the same format as if they were not hyperlinked. It may be tempting for filers to use very short forms for hyperlinked material, such as *Smith v. Jones* instead of *Smith v. Jones*, 123 Mich 456 (2005). This should be prohibited.

Standard legal citations provide jurisdiction, year, and publication information, which should be available to readers in the text without having to follow a hyperlink. More importantly, using standard legal citation form ensures that readers will be able to locate the cited material even if the hyperlink fails.

Filers should continue to use standard legal citation form, regardless of hyperlinking.

2. ***Option*: Encourage or require hyperlinking of legal citations to Westlaw or LEXIS.**

Westlaw and LEXIS are the most common legal research platforms and allow for highly reliable hyperlinks. Courts may encourage or require filers to hyperlink their legal citations to Westlaw or LEXIS. If the court subscribes to one service only, the court should provide that information to filers, as hyperlinks need to link to a service to which the court has access. At this time, the process of creating hyperlinks to Westlaw or LEXIS is not sufficiently uniform, simple, and inexpensive to warrant making it mandatory, but it may be in the future. In the meantime, encouraging hyperlinking may be desirable.

3. ***Option*: Allow hyperlinking of legal citations to free legal research websites.**

Some filers will not have access to Westlaw or LEXIS. To broaden access, courts may wish to allow hyperlinking to alternative free legal research websites, such as Casemaker, Fastcase, Google Scholar, Legal Information Institute, and the U.S. Government Publishing Office.

The risk of links not working is higher with free websites, but, to the extent a hyperlink is dead by the time a reader tries to use it, then the reader may simply access the document through Westlaw or LEXIS, using the standard citation information provided in the brief.

Some filers may cite something that is not a proper legal authority, but that problem exists regardless of whether there is a hyperlink. A reader is not required to click the hyperlink any more than a reader is required to look at something improper in an appendix or track down improperly cited material.

A more significant issue is if a website provides an outdated or inaccurate version of otherwise appropriate legal authority. No ready solution exists for that problem, except to caution judges and court staff to rely on Westlaw or LEXIS when actually preparing opinions. If this becomes a serious problem, it may be necessary for the court to stop allowing parties to hyperlink to free legal research websites.

4. ***Option*: Encourage or require hyperlinking of legal citations to key authorities contained in an appendix to the brief.**

An alternative way to give judges, court staff, and opposing counsel immediate access to legal authorities cited in a brief is to encourage or require the filing of an appendix of key legal authorities with the brief. An appendix of *all* cited legal authorities would be impractical, as the benefit would be outweighed by the burden on litigants and the resulting file size. However, an appendix of *key* legal authorities, selected by the filer and with a specified page limit, is feasible.

The main advantages of an appendix are that it does not require reliable Internet access (as hyperlinks to Westlaw and LEXIS do) and it is always present with the brief. Another potential advantage is that the court could choose to allow filers to highlight key passages of the legal authorities to expedite the court's focus and legal analysis.

If an appendix of key legal authorities is filed, it should be filed with the brief as a single PDF in order to allow internal hyperlinking. This can be done by merging the PDF of the brief and the PDF of the appendix into a single PDF for filing. Requiring a single PDF may necessitate a change in the court's file size limitations for e-filing. At a minimum, the file size limit must be considered before adopting any appendix requirements. Filing the appendix separately creates serious challenges for hyperlinking the brief to the appendix, so increasing file size (if necessary) is the most practical solution if existing file size limitations would interfere with filing a single PDF containing both the brief and the appendix.

Hyperlinking of record citations by filers

Hyperlinking to the trial court record can be very helpful to readers, in that it allows immediate access to cited record materials. From the reader's perspective, hyperlinks to the record may be especially helpful because finding a cited item in the record can take longer than calling up a legal authority in Westlaw or LEXIS.

1. ***Recommendation*: Require normal record citation form, regardless of hyperlinking.**

Any hyperlinked citations should be in the same format as if they were not hyperlinked. Some attorneys may be tempted to use shorthand citations due to the existence of a hyperlink, such as 2003 Contract instead of McLean Dec. filed 3/10/14, Ex. 3 (2003 contract). This should be prohibited.

In many cases, standard record citations contain information that is useful for the reader to have readily at hand, without having to follow a hyperlink. More importantly, using standard record citation form ensures that readers will be able to locate the cited material in the trial court record even if the hyperlink fails.

Filers should continue to use standard record citation form, regardless of hyperlinking.

2. *Option*: Encourage or require hyperlinking of key record cites to an appendix to the brief.

The easiest way to give judges, court staff, and opposing counsel immediate access to key record materials cited in a brief is to require filing an appendix of key record materials with the brief. Internal hyperlinks then can be used to connect the brief and appendix, as long as the brief and appendix are filed together as a single PDF.

Requiring the filing of a single PDF may necessitate increasing file size limits in a court's e-filing system, but it is necessary for internal hyperlinking. Even with higher file size limits, some files may exceed the limit, which may be addressed by rule. For example, Texas Rule of Appellate Procedure 9.4 provides that the brief "must be combined with any appendix into one computer file, unless that file would exceed the size limit prescribed by the electronic filing manager."

The advantage of hyperlinking to an appendix is that it is fairly simple as a technical matter. It also is likely the only option when the trial court record exists only in paper. The obvious disadvantage is that hyperlinks will be limited to those record materials that filers select as key. Another disadvantage is that hyperlinks will be limited to the materials contained in the specific appendix to that brief. In other words, if a key document is included in the appendix filed with an opening brief, it typically would not be included in appendices to later briefs. In order to generate hyperlinks to that document in an answering brief or reply brief, however, it would be necessary to refile the same document in an appendix to the later brief as well.

3. ***Option*: Encourage or require hyperlinking of record citations directly to the trial court record in the trial court system (*e.g.*, PACER).**

There are several advantages to hyperlinking to the actual trial court record, stored externally, rather than an appendix compiled by the filer. Those advantages include:

- *Immediate access to entire record and complete documents.* Unlike hyperlinking to an appendix, hyperlinking to an externally stored trial court record allows hyperlinking of every record citation. It also provides immediate access to entire documents. Instead of only selected documents and excerpted pages, the reader can jump to every record item cited and, if desired, look at the entire document or exhibit.

- *No effect on file size.* Most courts impose a maximum file size for e-filings. Hyperlinking to an external trial court record has no effect on the file size of the brief, whereas filing an appendix necessarily increases file size because the brief and appendix need to be filed together to permit internal hyperlinking.

- *May avoid or limit cost of preparing an appendix.* Preparing an appendix can be time consuming. If record hyperlinking is done in lieu of an appendix, then filers may avoid the cost of preparing an appendix altogether. For example, the Arizona Court of Appeals, Division Two, does not allow parties in civil cases to file an appendix, except for good cause, because all record citations must be hyperlinked to the electronic record provided by the appellate court.

As long as the trial court record is stored electronically, not in paper, it should be possible to hyperlink to it in many or most systems. The exact procedure will vary by system. For example, in the federal system, filers may hyperlink directly to PACER. Detailed instructions for adding hyperlinks to PACER, both in Word and WordPerfect, are

provided in the *Attorney Guide to Hyperlinking in the Federal Courts*, http://federalcourthyperlinking.org/attorney-guide-to-hyperlinking.

Given the value of record hyperlinks, courts should consider requiring them, at least for represented parties, as soon as two conditions are met: (1) trial court records are stored electronically; and (2) the appellate court is able to provide clear instructions for creating record hyperlinks in a manner that is reliable and not unduly complex or burdensome.

To the extent some attorneys may resist learning to hyperlink to the record, it should be noted that legal assistants and staff may be trained to add record hyperlinks. Also, automation software tools exist, especially to link to PACER. The most widely available at present are: (1) a Microsoft Word add-on called "LinkBuilder"; (2) a Westlaw tool included in Westlaw's "Drafting Assistant"; and (3) a LEXIS tool called "Shepard's BriefLink."

Before encouraging or requiring hyperlinks to the record, courts should test to ensure that a court log-in system does not break the links. For example, if an appellate judge clicks on a record hyperlink in a brief, receives a prompt asking for system log-in credentials, provides them, and then is taken to the court docket instead of the hyperlinked document, the hyperlink will be useless.

If parties are hyperlinking directly to the trial court system, system changes also may cause problems with links in existing filed briefs. For example, a change of e-filing vendors or a system update that changes target addresses could cause existing hyperlinks in briefs filed before that event to fail. Avoidable changes that break links should be avoided, while unavoidable changes should be addressed as proactively as possible to minimize disruption and dead links. This may involve coordination between courts.

4. ***Option*: Encourage or require hyperlinking of record citations to a copy of the trial court record maintained by the appellate court.**

Another option to facilitate record hyperlinking is for the appellate court to maintain its own copy of the trial court record, available online to judges, court staff, and all parties. For example, the Arizona Court of Appeals, Division Two, provides a copy of the trial court record and requires parties to hyperlink their record citations to it. The court's website provides detailed instructions for creating the hyperlinks automatically. *See* Arizona Court of Appeals, Division Two, *Hyperlink Instructions*, https://www.appeals2.az.gov/e-filer/welcome.cfm (click on "Inserting Hyperlinks to the Electronic Record").

Hyperlinking to an externally stored record has the same advantages over hyperlinking to an appendix regardless of which court system is storing the record to which hyperlinks are generated. Those advantages are discussed in the preceding section.

Keeping a copy of the trial court record in the appellate court's system for use in hyperlinking may be more technically feasible than hyperlinking directly to the trial court's system, depending on the system. Storing the record in the appellate court's system also may provide appellate judges and court staff with easier and more reliable access to the record than accessing the trial court's system, if they are different systems, and avoids the risk of dead links due to system changes at the trial court level.

The downside is storage requirements. This may be alleviated somewhat by establishing protocols for deleting the appellate court's "extra" copy of the trial court record at a specified point in time after the final resolution of the appeal. This will result in the hyperlinks going dead, but that should not matter because the brief contains the actual record citations for reference in perpetuity and the hyperlinks are meant only for convenience while the appeal is pending.

Hyperlinking to the Internet by filers

***Recommendation*: Prohibit hyperlinking to the Internet, except expressly authorized sites (*e.g.*, Westlaw, LEXIS, PACER). Require that any material cited as available on the Internet be included in an appendix to the brief.**

At the appellate level, there are limited circumstances in which hyperlinking to material on the Internet is appropriate. For the most part, filers should only be hyperlinking to the trial court record and legal authorities.

The main exception, which occurs infrequently, is when relevant material appropriate for judicial notice (under normal judicial notice rules) is available online. *See* Robert Dubose, *Can I Cite Wikipedia? Legal and Ethical Considerations for Appellate Lawyers Citing Facts Outside the Record in the Age of the Internet*, presentation at State Bar of Texas' Advanced Civil Appellate Practice Course, September 8-9, 2011, www.texasbarcle.com/Materials/Events/10351/136070.pdf. In such cases, a copy of the hyperlinked web page should be included in an appendix to the brief in order to create a permanent record. Without a hard copy on file, the cited material may become entirely unavailable if a website is taken down or its content moved or changed.

Hyperlinks in the "brief of record"

***Recommendation*: Allow parties to submit a hyperlinked brief as the brief of record.**

A few states require that the brief of record not contain hyperlinks but allow a copy with hyperlinks to be provided to the court separately for internal use. In jurisdictions that require the brief of record to be filed in PDF/A, such an approach may be the only way to receive a hyperlinked brief.

In general, however, it is preferable to allow a party to file a single brief with hyperlinks as the brief of record. Preparing two briefs—one with hyperlinks and one without hyperlinks—is burdensome and creates a disincentive to hyperlinking. (Note that this is different than saving the *same* brief in two different *file formats*, such as PDF and DOCX, which is easy and takes only a few seconds. There is no easy way to automatically remove or kill hyperlinks when saving a brief to PDF.)

If external hyperlinks are limited to legal authorities and/or the trial court record, and filers are required to use standard citation forms regardless of hyperlinks, then there is little downside to having hyperlinks in the PDF brief of record. The limited materials that may be hyperlinked are not of a nature that they should ever go dead or pose a security risk. Because standard citation forms are used and hyperlinks merely provide a convenience to the court, it would not matter even if the links did go dead. As for security, in most court systems, only individual users reading a downloaded copy of the PDF would be in a position to click on a link, in which case it does not matter whether they are viewing a copy of the brief of record or a separately provided version with hyperlinks. The security risk is the same either way. The benefits of requiring a hyperlink-free brief of record are dubious at best, although necessary if PDF/A is mandated.

Chapter 7:
Best practices for implementation

As of 2016, few jurisdictions have made significant changes to their court rules to address the shift to e-filing and e-briefs. The Federal Rules of Appellate Procedure provide detailed instructions for paper filings but defer to individual circuits to adopt local rules regarding e-filing. *See* Fed. R. App. P. 25(a)(2)(D). Many state court rules are similarly silent. Having rules that focus on paper filings, and in some cases apply only to papers filings, is confusing when e-filing is mandatory for most filers. Similarly, keeping rules adopted in the typewriter era, when nearly all briefs are now created on computers, may prevent parties from filing briefs that are well-suited to screens. As long as court rules continue to be based on briefs filed and read on paper, tension will remain between following the prescribed rules and producing optimal e-briefs.

At the same time, the reality is that implementing new rules and practices has inherent challenges. Rulemaking procedures can be lengthy and involved, and technology may change faster than formal court rules can keep up. It therefore may be helpful to consider various options for making the transition to e-filing and e-briefing.

Rulemaking

For jurisdictions that want to update and modernize their procedural rules to address e-filing and e-briefing, the following jurisdictions have the most detailed rules regarding e-filing (although not necessarily e-briefing) and may be useful for reference:

- United States Court of Appeals for the Fifth Circuit
- Alabama
- Arizona
- California
- Florida

- Hawaii
- Maryland
- Mississippi
- Oregon
- Texas
- Virginia
- Wisconsin
- Wyoming

For an overview of e-filing rules in every jurisdiction, an updated *Appellate Practice Compendium*, published by the ABA Council of Appellate Lawyers, will be available in 2017. Also useful is the report of the National Conference of Appellate Court Clerks entitled *E-Filing in State Appellate Courts: An Updated Appraisal*, which contains information about all state appellate courts as of 2014. That report is available online at http://www.appellatecourtclerks.org/publications-reports/docs/NCACC_E-Filing_White_PaperSeptember2014.pdf,

Some states have created committees to establish technology standards for the entire state. For example, the Texas legislature and Texas Supreme Court created a Judicial Committee on Information Technology to establish technology standards for the entire state. Those standards have since been incorporated into the Texas Rules of Appellate Procedure.

Interim rules, administrative orders, and public announcements

Most appellate court rules are outdated with respect to modern technology, so changes are necessary. In theory, a court could conduct a global review of its existing rules, amend those rules to make e-filing the norm and paper filing the exception (instead of the other way around), and adopt new rules to improve the functionality and readability of e-briefs received by the court.

In practice, however, an immediate and complete overhaul of a court's rules may be unrealistic or even undesirable. Implementation of electronic procedures in a particular court system is often tentative, gradual, and idiosyncratic, featuring incremental and interim solutions as courts and judges transition from a paper-only environment to a paperless environment. This may be due to resistance by judges, court staff, or attorneys, budgetary limitations, technological challenges, or other obstacles. Even different appellate courts in the same state may face different challenges, depending on their technology personnel, legacy systems, and culture.

The traditionally lengthy and cumbersome process of rulemaking also is at odds with the pace of technological change. Courts are understandably wary when the modern technological environment permits (or even demands) previously unanticipated innovations or adaptations.

Instead of conventional rulemaking, courts may opt for nimbler alternatives, which are more suitable to trial and error, as they seek to address e-filing and e-briefing developments. This may include implementing administrative orders, adopting interim rules, or even making public announcements through the court's website or via emails to registered e-filers or members of the bar. In that process, a court may abrogate or suspend existing rules in whole or part.

The following are some examples of appellate courts using alternatives to formal rulemaking to implement changes to practice related to e-filing and e-briefing.

- In 2012, the Arizona Supreme Court abrogated and reserved Arizona Supreme Court Rule 124, governing "Electronic Filing, Delivery and Service of Documents," on the ground that its "current language" had become "obsolete." Ariz. S. Ct. Order No. R-11-0012 (Sep. 1, 2011). It then issued an administrative order, available on the court's website, which governed electronic filing, delivery, and service of documents until a new

Rule 124 was adopted. Note that Arizona also has amended its civil appellate rules to address electronic filing, delivery, and service, which is an example of using a combination of administrative orders and formal rulemaking.

- In 2012, the Ninth Circuit issued an "Announcement" on its website and by e-mail that it was phasing out the existing system for telephonic extension requests and would allow parties to request extensions online through the Appellate ECF system. *New Procedures to Request Initial Extensions of Time to File Briefs* (Dec. 3, 2012), http://www.ca9.uscourts.gov/content/view.php?pk_id=0000000638. It issued a similar announcement when it began requiring that excerpts of records be filed both in paper and electronically. *Announcement: Electronic Submission of Excerpts Required as of 3/1/13—Paper copies still required*, http://cdn.ca9.uscourts.gov/datastore/uploads/general/electronic_excerpts_final.pdf.

- In 2014, the Michigan Supreme Court issued an administrative order authorizing Michigan appellate courts to implement e-filing and e-service. Michigan Supreme Court, Administrative Order No. 2014-23 (Nov. 2014).

- In 2016, the Ninth Circuit issued Interim Circuit Rule 27-13, governing electronic filing of sealed documents, which rule "replace[d] prior Circuit Rule 27-13 pending adoption of a final Rule." Ninth Circuit Interim Cir. R. 27-13 (eff. Apr. 4, 2016).

Phased introduction

Whatever method the court chooses, it may be helpful to introduce change gradually.

Pilot projects. A pilot project may be a good way to test options and work out kinks in a new e-filing system. Attorneys, firms, or agencies that are experienced litigants and are willing to provide meaningful

feedback may be recruited by the court to try the new system on a volunteer basis.

Voluntary-to-mandatory rollout. When a new procedure is ready for official rollout, one common way of phasing the rollout is to make the new procedure voluntary in the first phase; mandatory for attorneys, but not *pro se* parties, in the second phase; and then mandatory for all filers, subject to any permanent exceptions, in the third phase.

Court by court rollout. A rollout method that is often used in state courts is rollout by court, which may be used in conjunction with the voluntary-to-mandatory rollout strategy. Rollout by court may follow a *top down strategy*, beginning with the state supreme court (which usually has the smallest case load and most experienced bar), then expanding to the intermediate appellate court, and finishing with the trial courts. Alternatively, the rollout may follow a *bottom up strategy*, starting with the trial courts and then expanding to the appellate courts. Under either strategy, if there are multiple courts at a particular level—*i.e.*, multiple intermediate appellate court divisions or multiple trial courts—it may be desirable to phase those courts based on caseload, technological savvy of court staff, or other considerations.

Case type rollout. New procedures also may be introduced by case type, *e.g.*, civil, criminal, administrative, juvenile, etc. The percentage of the docket consumed by each case type, the typical nature and size of records for that case type, the frequency of sealed documents in the record, and like considerations may drive the order of phasing.

Training and Education

Implementing new technology in appellate courts often requires extensive training for everyone involved. Changes to existing rules that follow the same format as existing rules—such as changes in mandatory font size, line spacing, margins, and the like—are typically easier to absorb. More fundamental changes, however, such as the change from paper filing to e-filing, often require judges, court staff,

and attorneys to learn new skills. The same is true of new tools such as hyperlinking and bookmarking.

Without adequate training and education, frustration is inevitable, and dissatisfaction with new procedures is likely.

With regard to e-briefing in particular (as opposed to e-filing), the court may find it helpful to make it clear to attorneys that judges are now reading on screen and educate filers proactively about how to make their briefs better for that reality. This may include guides and video tutorials posted on the court's website, as well as live training presented through the courts, bar programs, and private CLE providers. Information should address not only *what* briefs must or can include but *how* to achieve optimal results efficiently. Educating attorneys is most effective if the bar understands how appellate judges and court staff will read and interact with their briefs in an electronic environment.

Judges, judicial clerks, staff attorneys, and court staff also should be trained about e-briefs. For example, including bookmarks and hyperlinks in a brief is a fruitless exercise if readers do not understand how to use them. Similarly, optimizing a brief for reading on screen is pointless, and even may be counterproductive, if inadequate training leads readers to print it rather than read it on screen. Training regarding annotation software is especially important in the transition to paperless courts.

Appellate courts are feeling their way forward in the e-briefing era, as they seek to adopt and improve e-filing and e-briefing procedures and technology. This process is aided when courts share with one another their experiences and knowledge of features, implementation methods, training materials, and other resources. Establishing a central clearinghouse for information and training material on these subjects would be a worthy endeavor.

Appendix:
Key authorities and additional resources

"Attorney Guide to Hyperlinking in the Federal Courts," http://federalcourthyperlinking.org/attorney-guide-to-hyperlinking.

Mary Beth Beazley, *Writing (And Reading) Appellate Briefs In The Digital Age*, 15 J. APP. PRAC. & PROCESS 47 (Spring 2014).

ROBERT BRINGHURST, THE ELEMENTS OF TYPOGRAPHIC STYLE (4th ed., Hartley & Marks 2012).

MATTHEW BUTTERICK, TYPOGRAPHY FOR LAWYERS (2d ed., O'Connor 2015). The content of this book is also available online as Butterick's Practical Typography, http://practicaltypography.com.

Robert Dubose, *Briefing Visually*, presentation at UT Law's 26th Annual Conference on State and Federal Appeals (Jun. 2016), https://utcle.org/elibrary/download/a/38574/p/1.

Robert Dubose, *Can I Cite Wikipedia? Legal and Ethical Considerations for Appellate Lawyers Citing Facts Outside the Record in the Age of the Internet*, presentation at Texas State Bar's Advanced Civil Appellate Practice Course (Sep. 2011), www.texasbarcle.com/Materials/Events/10351/136070.pdf.

Robert Dubose, *Legal Writing for the Rewired Brain: Persuading Readers in a Digital World*, presentation at ABA 2016 Mid-Year Meeting. For the entire book, see ROBERT DUBOSE, LEGAL WRITING FOR THE REWIRED BRAIN: PERSUADING READERS IN A PAPERLESS WORLD (Texas Lawyer 2010).

Robert Dubose, *More Than Words Can Say: Using Visuals in Appellate Briefs*, 53 Hous. Law. 26 (Sep./Oct. 2015).

Hon. Philip G. Espinosa, *The Paperless Court of Appeals Comes of Age*, 15 J. APP. PRAC. & PROCESS 99 (Spring 2014).

BRYAN A. GARNER, LEGAL WRITING IN PLAIN ENGLISH (2d ed. 2013).

R. Lainie Wilson Harris, *Ready or Not Here We E-Come: Remaining Persuasive Amidst the Shift Towards Electronic Filing*, 12 Legal Comm. & Rhetoric: JALWD 83 (Fall 2015).

Blake A. Hawthorne, *Guide to Creating Electronic Appellate Briefs* (2014), www.txcourts.gov/media/124903/guidetocreating electronicappellatebriefs.pdf.

Ferris Jabr, *The Reading Brain in the Digital Age: The Science of Papers Versus Screens*, SCIENTIFIC AMERICAN (Apr. 11, 2013).

Eric J. Magnuson & Samuel A. Thumma, *Prospects and Problems Associated with Technological Change in Appellate Courts: Envisioning the Appeal of the Future*, 15 J. APP. PRAC. & PROCESS 111 (Spring 2014).

Microsoft, *Remove hidden data and personal information by inspecting documents*, https://support.office.com/en-us/article/Remove-hidden-data-and-personal-information-by-inspecting-documents-356b7b5d-77af-44fe-a07f-9aa4d085966f.

National Conference of Appellate Court Clerks (NCACC), *E-Filing in State Appellate Courts: An Updated Appraisal* (2014), http://www.appellatecourtclerks.org/publications-reports/docs/NCACC_E-Filing_White_PaperSeptember2014.pdf.

Ellie Neiberger, *Judge-Friendly Briefs in the Electronic Age*, 89-FEB Fla. B. J. 46 (2015).

Jakob Nielsen, *Avoid PDF for On-Screen Reading*, Nielsen Norman Group (Jun. 21, 2001), https://www.nngroup.com/articles/avoid-pdf-for-on-screen-reading.

Jakob Nielsen, *F-Shaped Pattern for Reading Web Content*, Nielsen Norman Group (Apr. 17, 2006), https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content.

Ruth Ann Robbins, *Painting with Print: Incorporating Concepts of Typographic and Layout Design into the Text of Legal Writing Documents*, 2 J. ASS'N LEGAL WRITING DIRECTORS 108 (2004).

Requirements and Suggestions for Typography in Briefs and Other Papers, PRACTITIONER'S HANDBOOK FOR APPEALS TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT, http://www.ca7.uscourts.gov/forms/Handbook.pdf.

Acknowledgement

This report was made possible by members of the American Bar Association Council of Appellate Lawyers who dedicated hundreds of hours to the preparation of this report. The members who worked on this report are:

Robyn Ridler Aoyagi (Project Chair)
Karen Beach
Bennett Evan Cooper
Theresa Dwyer
Steven Finell
Theodore P. Heus
James R. Layton
Eric J. Magnuson
Anna Manasco
Robin Meadow
Brian Miller
Sara Murray
Ellie Neiberger
Damien Riehl
Crystal G. Rowe
Deena Jo Schneider

The project members express their extreme gratitude to the judges, court staff, and experts who commented on drafts of this report and assisted in finalizing its content.

COUNCIL OF
APPELLATE
LAWYERS