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ELECTRONIC FILING: WHAT IS IT? WHAT ARE ITS IMPLICATIONS?

William A. Fenwick† and Robert D. Brownstone ††

I. INTRODUCTION

A. Dramatic Impact of E-filing

A study, titled How Much Information, published in 2000 by the faculty and students at the School of Information Management and Systems at the University of California at Berkeley,¹ reported:

The world produces between 1 and 2 exabytes of unique information per year, which is roughly 250 megabytes for every man, woman, and child on earth. An exabyte is a billion gigabytes, or $10^{18}$ bytes. Printed documents of all kinds comprise only .003% of the total information produced.

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of the total. Magnetic storage is by far the largest medium for storing information and is the most rapidly growing, with shipped hard drive capacity doubling every year. Magnetic storage is rapidly becoming the universal medium for information storage.\(^2\)

It is at first startling to read that only .003% of the unique information produced annually by the world is in printed documents. Startling or not, the statistic provides a perspective on the amount of information that currently exist only in electronic form. It also raises the serious question of why are we only now beginning to hear about electronic filing?

B. What is E-filing?

Electronic filing (hereinafter “e-filing”) is the filing of information in electronic form, as opposed to paper form. E-filing will likely have a more pervasive effect on the legal system than did the adoption of administrative procedure acts or codes of civil procedure. It will require fundamental changes in organization, operation, management, and resource utilization by courts, lawyers, clients, citizens, and government entities.

Before analyzing the basis for such a sweeping statement, it is proper to begin at a common starting point. Traditionally, filings in courts and government agencies have been in paper form.\(^3\) Official court record systems have traditionally been paper-based.\(^4\)
Government agency records have also been predominantly paper-based. As would be expected, law office record systems are also paper-based. A significant limitation of paper-based records is that they reside in a single location, which means no more than one person can simultaneously access the records.

In courts, a unique case number is usually assigned to each proceeding. In the authors' experience, typically each court establishes a system of file organization so that, if filings in a case are delivered to the right court, properly identified, accurately filed and re-filed, one can theoretically locate any document in any filing at any time. Unfortunately, when files are stored in a variety of facilities, processed by different clerks, reviewed by different judicial officials, transported to various locations, and re-filed many times, it is not surprising that a particular "filed" document can sometimes not be located.

Government agencies that receive filings from the public have filing systems that are slightly more complicated than court system files. It is not unusual for an agency to have files related to a member of the public scattered among two or more offices. In addition, files in government agencies also have a more varied organization. Yet, access is still location-dependent, which means records can only be viewed by one user at a time.

Prior to implementing e-filing, some courts and government agencies, using information from the filed original paper records, have created a variety of electronic information systems to assist in locating and using information in the original paper records. The

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[T]he Human Resources Data Network, being developed by an interagency workgroup to capture essential workforce information to meet the needs of the Office of Personnel Management and other agencies . . . is intended to . . . replace the paper-based official personnel folders that are currently used to document pay, benefits, and work history of civilian employees[.] (Id.)

6. See, e.g., Division of State Archives, State of Utah, Judicial/Court Records at the Utah State Archives (July 12, 2001) (explaining that "[t]he bulk of a court's records consists of case files arranged numerically by the case number assigned at the time the petition or complaint initiating the case was filed"), available at http://archives.utah.gov/recordinfo/judicourt.htm.

7. See, e.g., Environmental Protection Agency, Records: Explanation of Schedule Fields (defining "Arrangement varies" as covering "cases where records are maintained in different ways in multiple offices"), at http://www.epa.gov/records/policy/schedule/sch fld.htm (last updated June 7, 2002).

8. See, e.g., id.
extent, use, and capabilities of these electronic systems are tremendously varied. On the low-tech end of the spectrum, the use is simply printing paper schedules, such as court calendars, or creating electronic images of paper records, and then manipulating those images in much the same way pages of paper are manipulated.9 On the high-tech end of the spectrum is the manual extraction of part of the information from the paper records for inclusion in electronic databases that in turn can manipulate and analyze the extracted information.10 The important point is that, to the extent such electronic records are created or used, they are incomplete, subject to human errors, and not generally available to the public. They are edifices built on the system of paper records, and, in most instances, the paper records still comprise the "official" record.11

E-filing is the filing and storage of information made up of electronic bits and bytes, rather than paper. Electronic filings are generally either electronically transmitted to a court, or government agency,12 or created and submitted by the completion of forms made available on-line by courts or government agencies. Delivery or "service," with the exception of some initial pleadings, is electronic; and electronic versions of the information are received, stored, and maintained in an electronic system.
C. How Does It Work?

For courts, registration systems are created which provide login names and passwords for e-filers. Filings are prepared and submitted in electronic form and sent directly to the court (or, in some cases, to an intermediary, which in turn provides the files to the court). A review of 1) Local Rule 5.4, 2) General Order 45, and 3) the CM/ECF Frequently Asked Questions (FAQ’s) Page (all issued by the United States District Court for the Northern District of California), provides answers to many, but not all, of the questions generated by courts as they have come to utilize the functionality of such a system. One should view the systems described in General Order 45 and in the ECF System Users’ Manual for the United States District Court for the D.C. District as being “beta test” versions of what will soon become much more friendly federal court Electronic Case Filing (ECF) systems.

ECF is not simply a matter of “pushing the button” to render everything automatically accomplished. Most filers will find it necessary to develop protocols to execute electronic filings in various courts. For example, the protocols used by Fenwick & West LLP to comply with those courts’ requirements are available on the firm’s website.


16. CM/ECF FAQ, supra note 12.


18. A “beta test” is the second phase of software testing in which a sampling of the intended audience tries the product out. (Beta is the second letter of the Greek alphabet.) Originally, the term alpha test meant the first phase of testing in a software development process. The first phase includes unit testing, component testing, and system testing. Beta testing can be considered “pre-release testing.” Beta test versions of software are now distributed to a wide audience on the Web partly to give the program a “real-world” test and partly to provide a preview of the next release.

WHATIS.COM ENCYCLOPEDIA, at http://whatis.techtarget.com/ (last updated Sept. 6, 2002).

For government agencies, e-filing usually consists of keying information into a form, which is submitted electronically. Some agencies also accept electronic copies of documents that historically had been sent in hardcopy form. Government agencies' e-filing systems are too varied to permit a meaningful generalization about their operation. Instructions for the completion and submission of e-filings to government agencies are found on their respective websites or are part of the form that is completed on-line.

II. HOW PERVERSIVE IS ELECTRONIC FILING?

A. What is the Adoption Trend Line?

The trend line for adoption of e-filing by courts and government agencies was pretty flat from 1991 to 1997, with few actual pilot projects undertaken. Since about 1999, the trend line has had a steep incline. A general projection, based on the developments discussed in the rest of this section, is that e-filing in some form will be pervasive in federal and state courts and government agencies by the end of this decade.

B. E-filing in the State and Federal Court Systems

1. A Little Background

Tom Smith, a consultant hired by the California Administration of the Courts [hereinafter "AOC"] to assist it in implementing e-filing across the state's courts, has identified that the ideal judicial electronic filing system should have at least the following functionality:


21. An interesting and somewhat related question arising from this situation is how often an attorney or a client saves an electronic or paper copy of a form submitted on-line? In the estimate of the authors, a good guess is "not very often." So how does one later know, verify, or contest the contents of what the agency says has been filed?

Universal service (all courts, case types, filings, user communities), i.e. support for any type of filing, for any type of case, in any jurisdiction;

Comprehensive (filings, exhibits, fees, etc.), i.e. anything that needs to be filed should be fileable electronically;

Consistent end user experience, i.e. the user should not be troubled by different interfaces for each jurisdiction or case type;

End user support, i.e. like any other IT, there is demand for support, marketing, billing, etc.; and

Multi-jurisdictional practices, i.e. accommodations must be made for filers with practices in multiple jurisdictions.²³

The objectives outlined above are the basic requirements to get the full benefits of electronic filing. Currently, there are no ideal court electronic filing systems in operation in the United States. As discussed in the following section, however, early versions of judicial electronic filing systems have been, or are being, implemented in federal and state courts across the United States.

One of the biggest impediments to all e-filing is the absence of a flexible uniform data transfer protocol required for sending or receiving information in a readily useable electronic form.²⁴ Over the last several decades, significant effort has been put into Electronic Data Interchange (hereinafter “EDI”) standards.²⁵ Though no courts


²⁴. See GAO REPORT, supra note 5, at 33–41.

²⁵. Id. at 3–4, 12, 26–30.
have yet, some government agencies, including the federal Securities and Exchange Commission (SEC)\(^\text{26}\) and the Internal Revenue Service (IRS)\(^\text{27}\) have participated in, and adopted, some EDI standards. However, according to a recent report by the United States General Accounting Office (hereinafter "GAO Report")\(^\text{28}\) the inflexibility of EDI, and required baggage have restricted its use to large organizations with proprietary software and private communication networks.

As noted in the same GAO Report, flexible but complete transfer protocol permits interoperability\(^\text{29}\) between disparate computer systems, and is essential if the potential benefits available through electronic filing are to be realized by:

- all parties or agencies receiving or sending information to or from administrative agency or court e-filing systems; and/or

- any systems using or further distributing data derived from the e-filing systems.

Currently, the most promising transfer protocol developments are ones using markup languages, such as Extensible Markup Language (XML),\(^\text{30}\) for tagging the contents of records. XML "is a flexible, nonproprietary set of standards for annotating or ‘tagging’ information so that it can be transmitted over a network, such as the Internet, and readily interpreted by disparate computer systems."\(^\text{31}\) The GAO recently published the above-mentioned informative report explaining what XML is and what it does.\(^\text{32}\)

A joint project of two nationwide court management associations under the National Center for State Courts (NCSC), recently endorsed XML in a proposed draft of e-filing standards.\(^\text{33}\) Yet, disappointingly,
few state or federal administrative agencies have devoted trenchant efforts to development or adoption of such markup languages.34 There have been only sporadic efforts in some federal agencies to use XML.

Some courts, principally Delaware and Utah (which are not listed in the table of state court activities which follows), are two of the veteran e-filing courts. These two courts have the most experience with the development and use of markup languages.35 The Utah project initially adopted SGML (Standard Generalized Markup Language),36 which has proven to be somewhat limited. More promising is an effort by a number of state court systems, including the California state courts' Judicial Council,37 to develop a supplement to XML, known as "legal" XML.38 Legal XML is a set of supplementary specifications that accommodate information in electronic form when it is received, generated, or distributed by courts or judicial agencies.39

The legal XML project was recently folded into the Organization for the Advancement of Structured Information Standards (hereinafter "OASIS")—an umbrella entity coordinating efforts to develop XML protocols for various types of electronic information transfer. OASIS projects include e-commerce protocols and a variety of non-legal activities of interest to other industry groups seeking to supplement current XML protocols.41 Once the protocols for legal XML are

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34. "No explicit government-wide strategy for XML adoption has been defined to guide agency implementation efforts and ensure that agency enterprise architectures address incorporation of XML." GAO REPORT, supra note 5, at 5.


36. Id.


38. See generally GAO REPORT, supra note 5, at 29, 36, 41–42.

39. Id.

40. Id. at 32, 37, 40, 50–51.

41. Id.
completed and adopted, the implementation of judicial electronic filing should greatly accelerate.\textsuperscript{42}

A diagram of what is contemplated in California would depict an efficient high-level infrastructure that could accommodate state and federal judicial e-filing in a world of diverse Case Management Systems (CMS).\textsuperscript{43} Figure 1\textsuperscript{44} is one version of the envisioned goal. The figure does not explicitly take into account the myriad of local, state and federal agencies that send or receive information to or from the courts. The symbols on the extreme left reflect the “filers” in the court system. The hexagons represent third party electronic filing service providers—if the court elects to permit the use of filing intermediaries. EFM is the court’s electronic file manager, which interfaces with the court’s CMS.

![Figure 1. Integrated court e-filing infrastructure.](image)

The following are some helpful definitions\textsuperscript{45} for understanding Figure 1:

- EFM-CMS API: The major problem realized to this point is that interfacing anything to court CMS’s is time-

\textsuperscript{42} Id. at 29, 36, 41–42.
\textsuperscript{43} Smith Presentation, \textit{supra} note 23, at slides 3–9.
\textsuperscript{44} Id. at slide 8.
\textsuperscript{45} Smith Presentation, \textit{supra} note 23, at slide 8.
consuming and expensive, especially in California, which has a great diversity of CMS configurations. The California Electronic Filing Technical Standards Program (hereinafter "CEFTS") responded by developing a requirements document for a standard API. Legal XML has adopted that work.

- Court Policy XML: Permits a court to tell the world what its policies are, e.g., types of filings accepted, filing hours, which court filing options it supports, etc. These options are then expressed in XML.

- Query/Response XML: Permits a court to specify the information it will provide to the outside world. Some queries will be universal (normative), some unique; courts need not have to necessarily support either.

- CDC XML: Court Data Configuration XML is associated with the EFM-CMS API. The CMS publishes (in XML) what it needs by way of data elements for every type of filing it can process. The EFM and Electronic Filing Service Provider (EFSP) applications configure themselves based on this information.

- Court URL Directory: A list operated by California's Administrative Office of the Courts (AOC) and

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46. Judicial Council of California Electronic Filing Technical Standards, supra note 37. California's first step in defining the technical environment for uniform statewide electronic filing (e-filing) is defined in California Electronic Filing Technical Standards, version 6. The technical standards result from a collaborative process involving courts, vendors, the AOC, and other interested parties. It is grounded in part on proposed OASIS/LegalXML standards and consists of 14 specifications. Id.


47. Id.


49. Judicial Council of California, Judicial Council Meetings, at http://www.courtinfo.ca.gov/courtadmin/aoc/ (last visited Nov. 20, 2002). The Administrative Office of the Courts (AOC) serves as the staff agency to the Judicial Council of California. The 27-member Judicial Council is the policy-making body of the California courts, the largest court system in the nation. Under the leadership of the Chief Justice and in accordance with the
maintained by various courts, identifying the courts’ respective CMS(s)’ URLs and of case types handled.

2. Electronic Filing in State Courts

The National Center for State Courts has posted the following table (Table 1) (as of March 18, 2002) linking to, and describing, 20 or more states’ e-filing projects:

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>E-filer - The Arizona Court of Appeals Division Two accepts electronically filed documents at the Appellate level.</td>
</tr>
<tr>
<td>California</td>
<td>Press Release - Pilot project takes a different, scaled back approach. Orange County Superior Court and West Group Suspend Development of Electronic Filing Pilot Project. Orange County Superior Court Small Claims Court - Superior Court of California, County of Sacramento. “Have you filed a claim on the Internet before?”</td>
</tr>
<tr>
<td>Colorado</td>
<td>IIS Projects Colorado Courts - First in Nation to Offer Statewide E-filing in Civil and Domestic Cases.</td>
</tr>
<tr>
<td>Delaware</td>
<td>Electronic filing and Docketing - In 1991, the Superior Court of Delaware created the very first electronic docketing and filing system for civil cases in the United States. The system is called CLAD which stands for Complex Litigation Automated Docket. CD Briefs and appendices - The Delaware Superior Court is the first state court to adopt a rule (Civil Rule 107(h)) which allows parties to file briefs and appendices with the court on hyperlinked CD-ROM disks.</td>
</tr>
</tbody>
</table>

California Constitution, the council is responsible for ensuring the consistent, independent, impartial, and accessible administration of justice. *Id.*


<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia</td>
<td>E-Filing - The door is open to file court documents electronically at the Chatham County Courthouse in Savannah, Georgia.</td>
</tr>
<tr>
<td>Michigan</td>
<td>Washtenaw County Trial Court Electronic Filing. Filing a legal brief for a civil division trial could be an e-mail attachment in Washtenaw County, Michigan.</td>
</tr>
<tr>
<td>New Jersey</td>
<td>JEFIS – Statewide Judiciary Electronic Filing System (Special Civil Part) - New Jersey’s electronic filing system. At this time, you must be an attorney in order to participate in the JEFIS program.</td>
</tr>
<tr>
<td>New Mexico</td>
<td>Electronic Filing Project – The New Mexico Supreme Court will provide a common interface over the Web that will allow attorneys, judges, and other court personnel to file court documents electronically.</td>
</tr>
<tr>
<td>New York</td>
<td>Filing by Electronic Means – New York State Unified Court System program under which some legal papers in civil lawsuits may be filed electronically.</td>
</tr>
<tr>
<td>Ohio</td>
<td>CourtNET - a subscription based service providing the ability to electronically file civil documents with participating municipal courts in Ohio. Electronic Filing - The Hamilton County Clerk of Courts Electronic Filing permits the filing of certain types of documents.</td>
</tr>
</tbody>
</table>
The above table is an attempt by the NCSC to provide current information about all state court e-filing projects. There are, however, several other state and local courts, e.g., in Utah,\textsuperscript{52} using e-filing, but whose projects are not linked off of the above table.\textsuperscript{53}

3. Electronic Filing in Federal Courts

The status of electronic filing in the federal court system as of September 2002 is described on the website of the Administrative Office of the U.S. Courts as follows:

The federal judiciary is now well underway with the nationwide implementation of its new Case Management/Electronic Case Files (CM/ECF) systems. CM/ECF not only replaces the courts’ aging electronic docketing and case management systems, but also provides courts the capability to have case file documents in electronic format, and to accept filings over the Internet if they choose to do so.

CM/ECF systems are now in use in ten district courts, thirty-eight bankruptcy courts, and the Court of International Trade. Most of these courts are accepting electronic filings. More than 3 million cases with more than 14 million documents are on CM/ECF systems. And more than 19,000 attorneys and others have filed documents over the Internet. Under current plans, the number of

\textsuperscript{52} Alan Asay, Applying Information Technology to Court Case Files: Report of the Utah Electronic Filing Project (Sept. 1994), available at \url{http://xml.coverpages.org/utah-efiling1.html}.

\textsuperscript{53} Plans for court e-filing are underway in a large number of state courts. A search at Google.com using the query “courts electronic filing” produces over 140,000 hits containing links to a broad variety of information about judicial e-filing activities.
CM/ECF courts will increase steadily each month into 2005. Each court goes through an implementation process that takes about 10 months, and each month four to five additional courts complete the process.

Attorneys practicing in courts offering the electronic filing capability are able to file documents directly with the court over the Internet. Based on the data that follows the above quote at the U.S. Courts site, as of the date of publication, the status of activity in the federal courts can be summarized as:

- CM/ECF systems are now in use in ten district courts, thirty-eight bankruptcy courts, and the Court of International Trade.

- An additional thirty-four bankruptcy and nineteen district courts, plus the Court of Federal Claims, are scheduled to implement CM/ECF very soon.

- An additional four bankruptcy courts and five district courts are scheduled to begin implementing CM/ECF over the next two months.

- Once the current implementation phase is completed, a total of 112 courts (2 specialized, 34 districts and 76 bankruptcy) will be on board.

Thus far, federal court electronic filing has been implemented without using markup language. Instead, e-filing in the federal courts makes extensive use of imaging to convert paper-based information into electronic images. The latest improvement in the system being used in the United States District Court for the Northern District of


55. Id.

56. While it would be much less burdensome and consumptive of electronic storage to file in a word-processing format, such files can be easily altered. Images of documents produced by word processors, cannot be altered without being detected. With the limitations of current technology, images are the only feasible format for the time being. Unfortunately, images of printed documents cannot be electronically searched.
California is the required use of Adobe’s Acrobat Portable Document Format (PDF) imaging for every e-filed document.\(^{57}\) Adobe’s higher-level version of Acrobat has a "PDF Writer" feature and a "Distiller" feature, either of which converts a word processing file to a unique type of PDF image file.\(^{58}\) Although the created file, sometimes called "PDF Normal,\(^{59}\) cannot be modified, it retains two key attributes of a word processing file:

- full-text searching; and
- enables blocks of text to be copied for pasting into a new word processing file.

Once legal XML or some other markup language is adopted, it can be expected that the federal courts will update the CM/ECF systems and require filings to use the accepted information transfer protocols that are being developed. Since federal courts are centrally administered, the political and cultural resistance to a single CM/ECF system should be minimal, in comparison to state courts like California, where the courts of general jurisdiction are administered by the counties or other decentralized hierarchies.\(^{60}\)

**C. Electronic Filing in Government Agencies**

Since the mid-1990s, all levels of government agencies have considered and embraced the use of the Internet.\(^{61}\) They have done so to better service their constituencies.\(^{62}\) Federal and state agencies have consistently expanded their Internet use, including e-filing, even in the face of technical limitations.

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60. In the case of California, there are 58 different county court systems.
62. See Margaret Kane, Web Site to Put Gov’t Rules Under One Roof, CNET NEWS.COM (May 8, 2002) ("U.S. government is developing a Web portal that would give citizens one access point to read up on and comment on federal rules and regulations from multiple agencies"), at http://news.com.com/2100-1017-903327.html.
1. Federal Government Agencies

The Federal government has developed a number of web portals to facilitate direct dealings with the private sector. Current administration strategy is the subject of an Office of Management and Budget task force report dated February 27, 2002. The following excerpt from the Executive Summary of that report summarizes the level of Federal Government agency interest:

Federal information technology (IT) spending in the United States will exceed $48 billion in 2002 and $52 billion in 2003. That level of IT spending provides enormous opportunities for making the transformation government into a citizen-centered E-government. Indeed, a good portion of current federal IT spending is devoted to Internet initiatives, yielding over 35 million web pages online at over 22,000 web sites. But past agency-centered IT approaches have limited the government's productivity gains and ability to serve citizens. As highlighted in this report, the federal government is poised to transform the way it does business with citizens through the use of E-government.

This report presents the federal government's action plan for E-government. The primary goals for the President's "Expanding E-government" initiative are to:

- Make it easy for citizens to obtain service and interact with the federal government;
- Improve government efficiency and effectiveness; and
- Improve government's responsiveness to citizens.

As with e-filing in courts, e-filing with federal agencies also presents some challenges when it comes to information transfer. The following excerpt from the pertinent part of the Executive Summary of the April 5, 2002 United States General Accounting Office's Report on Electronic Government - The Challenges to Effective Adoption of Extensible Markup Language addresses some of these issues:

63. Examples of the federal government's adoption of on-line government services based on electronic record systems can be found at http://www.firstgov.gov/ and through its linked materials.


65. Id. at 1.
Advances in the use of IT—especially the rise of the Internet—are changing the way private sector businesses, government agencies, and other organizations communicate, exchange information, and conduct business among themselves and with the public. The Internet offers the opportunity for a much broader and more immediate exchange of information than was previously possible, because it provides a virtually universal communications link to a multitude of disparate systems. However, although the Internet can facilitate the exchange of information, much of the information displayed to users is delivered only as a stream of computer code to be visually displayed by Web browsers, such as Internet Explorer or Netscape Communicator. For example, an economist might visit a Web page that displayed statistical information about the production of various agricultural commodities over a number of years. Typically, such a Web page would only display this information to the economist to examine visually on his or her computer screen. Without special translation software, it would likely be difficult for the economist to transfer the information to a separate computer program for further statistical analyses.66

2. State Government Agencies

State governments’ attitudes are exemplified by California’s e-government initiative. Governor Gray Davis hosts a Governor’s Home page, where he expresses the State’s interest in implementing technology:

Welcome to the Governor’s Home Page, part of the new State portal - my.ca.gov / your online link to California. California is a place where intellect, invention, and imagination come together. As Governor, I am committed to using the technologies of the Internet, many developed in our State, to open the doors of government.67

“My California” is the state portal where any person or business can quickly design a personal portal to California government. Using software provided on the portal, one can select from an elaborate menu of choices to create a custom Homepage with direct links to an array of California government sites.68 The following titles are examples of the government links available through the My California Homepage interface:

66. GAO REPORT, supra note 5, at 2.
3. Implementation and Limitations of E-filing by Government Agencies

The functionality of both federal and state e-government is comprised of three phases:

- Phase I: creating web pages to disseminate information about the agency and its activities with no interactive capability, i.e. using the Internet as a publisher only;

- Phase II: using the Internet not only to publish, but also enabling the citizen to submit transactions to the agency. Submitted information is processed and responded to mostly off-line, using traditional means such as telephone or mail;

- Phase III: creating an interactive web site that publishes, receives transactions, processes transactions, and responds on-line in real time.69

69. Clicking on “Local Government” and “California’s Tribes,” at http://www.ca.gov/state/portal/ takes the user to a page of links, including:
   - City Government (a database of links to California cities’ home pages), at http://www.cacities.org/cities_online/cities_online.asp (last visited Nov. 22, 2002); and
   - County Government (a page of links to all 58 California Counties’ websites), at http://www.csac.counties.org/counties_close_up/county_web/index.html (last visited Nov. 22, 2002).

   1) the “posting of information on web pages;”
   2) “private sector innovations [borrowed from] ‘e-commerce’: . . . allow[ing] all sorts of government transactions to be conducted online;”
   3) the ongoing “transformation of government processes” being driven by
Most government agency websites are in Phase I, which does not use e-filing. A minority of agency websites is in Phase II, which minimally uses e-filing. Very few agencies are in Phase III, which makes extensive use of e-filing.\textsuperscript{71} It appears, that few, if any, government agencies have adopted any markup languages to accomplish more than displaying information on their websites. Thus, their websites remain rather rudimentary. Yet, because they control the forms that are filled out on-line, government agencies can achieve more of the benefits of e-filing than can the courts. The GAO’s recent report concluded that, in so far as the federal government’s use of the XML markup language was concerned, there are a number of challenges still to be overcome. These include:

- No explicit government-wide strategy for XML adoption has been defined;
- The needs of federal agencies have not been uniformly identified and consolidated so that they can be represented effectively before key standard-setting bodies;
- The government has not yet established a registry of government-unique XML data structures (such as data element tags and associated data definitions) that system developers can consult when building or modifying XML-based systems;
- Much also needs to be done to ensure that agencies

\textsuperscript{71} PFF Report, supra note 70, at 7. In the “Electronic Commerce & Business Regulation” section of their survey, the authors “examine[d] the use of digital technologies to ease regulatory compliance.”\textsuperscript{Id.} They “asked about the number and type of forms and applications that are on-line and can be submitted and paid on-line [and also] asked states about their procurement. . . policies.”\textsuperscript{Id.} The results were mixed, reflecting in pertinent part that,
address XML implementation through enterprise architectures so that they can maximize XML's benefits and forestall costly future reworking of their systems; and

- GAO is making recommendations to the director, Office of Management and Budget (OMB), to enhance federal planning for adoption of XML.\textsuperscript{72}

Despite these concerns, the absence of information transfer standards does not appear to have inhibited continued expansion of the use of the Internet or e-filing by government agencies.\textsuperscript{73}

III. THE GENERAL IMPLICATIONS OF E-FILING

\textit{A. Paper-based Record Systems}

Transmitting agencies and parties generally create paper-based records of information they file with the courts. Courts have created paper-based systems, which attempt to organize and store those billions of documents,\textsuperscript{74} as well as the huge number of documents generated by the courts themselves. Court filings and their underlying judicial proceedings trigger literally thousands of government social services and private actions.\textsuperscript{75} Information contained in the courts' record systems is manually extracted and transferred to all the agencies and parties that are dependent on the court records. In addition to creating paper-based filing systems to store documents, court staffs also manually extract and enter certain

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\textsuperscript{72} GAO REPORT, supra note 5, at 5. \\
\textsuperscript{73} The terrorist events of September 11, 2001 have resulted in an effort to reassess the benefits and risks of making available, on the Internet and otherwise, certain public infrastructure information that has been published by government agencies. \\
\textsuperscript{74} One commentator has reported there were “90 million cases filed in the nation's 17,500 courts each year [that] generate more than 1.5 billion documents.” Tom O'Connor, \textit{E-filing: Who's Doing What}, N.Y. LAW J., July 2, 2001, at T7. \\
\textsuperscript{75} See E-GOVERNMENT STRATEGY, supra note 64, at 12. While agencies have spent two years considering how to move 6,600 types of paper-based transactions online (representing millions of individual transactions per year), only hundreds are online today. Given the redundant and outdated activities inherent in the 6,600 transactions, the Task Force identified that successful E-Government implementation would have to significantly streamline interactions. \textit{Id.} See generally Center for Digital Government, 2002 Digital State Survey: Social Services and Law Enforcement and the Courts; Best of Breed Programs, available at http://www.centerdigitalgov.com/center/media/BOB2002pt1.pdf.
\end{flushleft}
information from these filings for use in the court's internal Case Management Systems (CMS).

Receiving agencies and parties create record systems (generally paper-based), from which information is extracted and passed on to other parties and agencies whose functions are dependent on the information received from the first tier of receiving agencies and parties. Each subsequent receiving agency and party further proliferate the information. A multitude of people and agencies repeatedly perform the process of receiving information, creating additional record systems, and extracting and disseminating information. Each exchange is not only labor-intensive, but also presents numerous opportunities to introduce errors into the succeeding record systems. The need for unprompted humans to initiate action leads to incomplete information, as well as misfiling of original records.

As mentioned above, government agencies have created paper-based record systems that are more dispersed; however, those systems have many of the same needs to provide information to other agencies and members of the public. The same limitations and opportunities for errors inherent in court paper-based systems are also present in government agency paper-based record systems.

B. Retrieval of Information from Paper-Based Record Systems

Retrieval of records from paper-based systems is dependent on identifying the "universe" of files likely to contain the information to be retrieved. Once the universe is identified, the records in that universe must be located and manually reviewed to identify the specific document that contains the desired information. Finally, the desired information must be located in the document and extracted for review. Often, further arrangements must be made for copying the document, delivering it to a specific person or organization making the request, and correctly re-filing the original record.

76. See generally Center for Digital Government, supra note 75.
77. See, e.g., Jay Weir, White Paper: Transforming Information Into Intelligence (Knowledge Management World, June 2002) (stating as to the Utah Department of Transportation Project that "[u]sing the old paper-based system, searching for documents was often frustrating and unfruitful, since the people who entered the data or filed the documents weren't always around to help locate the needed files"), available at http://www.kmworld.com/publications/specialpublication/.
C. Record Systems for Electronic Documents

When electronic filing is fully implemented, there will be no paper-based record systems. Information in electronic record systems will be collected, recorded, searched, and distributed electronically. Assuming seekers of those records are authorized to have access, a nearly unlimited number of people and agencies can have simultaneous access to the electronic records. Because such records will not be moved from place to place, or person to person, it is less likely to be misfiled. They can be available at all hours of the day, whether the court or government agency is open or closed. Since the information from those records will be automatically distributed electronically to parties and receiving agencies, the potential for errors is also greatly reduced.

Moreover, no longer do information seekers need to manually search through file drawers or racks for binders to locate information in paper records. Instead, the searching can be done electronically and remotely. To give some idea of the potential differences in efficiency, consider the speed of the modern electronic search engines used on the Internet. For example, search using Google (a popular Internet search engine) on the phrase "electronic filing courts" produces over 140,000 hits with links to documents across the Internet in one-sixteenth of a second.

One of the authors over the last 15 years has maintained duplicate paper and electronic records of pleadings filed in most of his large cases. Occasionally, he has compared how long it took to locate specific information in a paper pleading binder, versus in an electronic equivalent to a pleading binder. Starting only with the knowledge of what information was needed, on average, it took 25 minutes for the paper pleading binder, compared to 20 seconds for the electronic pleading binder.

For court-related documents alone, the efficiency of immediately linking to, excerpting, or quoting from pleadings and court materials could more than streamline the practice of law. Duplicate "working files," kept by the many lawyers working on a matter, the time and effort expended by law firms and court staff in filing, storing, retrieving, copying and re-filing copied documents, all could fade away when the information is contained in an electronic file that is automatically created and stored electronically from the time of its

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78. The electronic record will be used to produce a paper hard copy.
80. The problem is more acute if lawyers in more than one office location are working on the same matter and need access to the same documents.
filing. A nearly unlimited number of searchers could simultaneously retrieve such information around the clock. There is no need to re-file because the file is never moved. Those thoughts, and the logical next steps, begin to provide some idea of why universally mandated electronic filing is probably inevitable.

In addition, courts do not have anywhere near enough space to store the documents they are receiving. They have inadequate staff and financial resources to handle the paper. Yet they have a legal obligation to not only receive, process, and store those documents, but also, to often make them available to the public. Government agencies have the same or similar problems, but most do not have the volume of paper with which courts must work.

As discussed in section II (B)(2), Electronic Filing in the Courts, above, most of the current court e-filing systems are based on unsearchable images and, occasionally, static word processing documents. That deficiency can be expected to fade rapidly in this decade, as the maturing systems will use more sophisticated imaging and data transfer protocols, such as XML or others, to achieve the promise that has been so long held out. Once the trial courts have mature systems, the utilization in appellate courts will not only take less time, but will also streamline creation of records on appeal—compounding the receiving, processing, storing, and retrieving advantages. Although there are some important unresolved social and legal issues, such as privacy and access, they will likely be worked out by trial, error, and public dialogue.

IV. WHAT ARE SOME OF THE MORE SPECIFIC IMPLICATIONS OF E-FILING?

Any effort to chronicle all of the ramifications and impacts of the adoption of electronic filing to replace the paper filing systems is

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81. O'Connor, supra note 74. "An estimated $11 billion is spent on delivering documents to the courts and it costs more than $2.5 billion annually to pay for storage. Personnel costs associated with paper filing can account for as much as 90 percent of a court's operating budget." Id.

82. See e.g., California's Alameda County Courts' DomainWeb (an example of a current generation e-filing system), at http://www.co.alameda.ca.us (last updated Feb. 21, 2002).

83. It is quite probable that the record on appeal will be a list of links to files in the trial court electronic record.

84. In most of the court e-filing projects that have been implemented, there are plans for a kiosk or terminal in the courthouse that can be used to file pleadings and/or access the electronic files. Presumably, comparable facilities will be provided by government agencies that are obligated to receiving and making paper records available at their offices.

85. It should be kept in mind that government paper-based record systems have been evolving for hundreds of years, while most government electronic record systems are less than
considerably beyond the scope of this Essay and would require foresight not possessed by the authors. However, there are some important specific implications that do not require inordinate speculation. This section attempts to briefly describe the more obvious impacts that courts, lawyers, clients, citizens, and governments can expect through the migration to e-filing systems.

A. Courts

1. From Depositories to Publishers

Courts are depositories of publicly available records relating to all manner of disputes. Each specific dispute yields an outcome regarding the parties. In addition, the records of the dispute and its resolution (if the opinion is published) provide some predictability about how future disputes involving the same legal issue and similar facts will be resolved by the courts.

Most domestic state and federal constitutions and laws mandate that court proceedings and records be made public. Thus, in the current paper-based record systems, if one goes to the specific court at the specific location where the legal proceedings are being or have been held, one can request to see (and most often copy) the paper record containing the desired information (barring some legislative or court restriction on access to a limited proportion of records, e.g., juvenile proceedings or family court records). Requiring physical presence to request desired documents constrains widespread dissemination of almost all information in the courts’ files.

Those constraints on court records are quite reasonable when court record systems are paper-based. In contrast, with electronic court record systems, there is no structural impediment to having remote access through the Internet or some other network. Furthermore, most, if not all, current judicial e-filing projects are planning or mandating remote access to case records. When courts

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make their electronic records available remotely, they effectively become publishers (as well as depositories). As the experience with electronic filing to date is inadequate to indicate the full ramifications of this transition for the courts or the public, more time is required to assess the impact. Access to courts and the information in court files however will be made much less burdensome when electronic recording systems become more wide-spread.

In addition, some people believe e-filing also presents far-reaching implications for privacy. Concerns about privacy and access have motivated many courts to develop pertinent rules similar to those adopted this year by the California Judicial Council.89 The Judicial Conference of the United States has expressed similar concerns90 which have triggered the promulgation of privacy protocols at many federal district courts.91

2. Other Implications for the Courts

More courts are recognizing that they are "service providers" to their various constituencies. Courts and court staff are increasingly referring to parties and the public as being their "customers" or "clients." Few courts are satisfied with the level of customer services they currently provide and the inefficiencies that pervade the judicial system. Most courts are trying, within severe resource constraints, to improve customer service. E-filing is believed to provide one of the greater opportunities to achieve such improvements.

First, the impact on court staffing will be dramatic. Skill level and constant re-tooling will be mandatory. Though the training and


91. See, e.g., U.S. District Court for the Northern District of California, General Order No. 53, Privacy (May 21, 2002) (mandating redaction of "personal identifiers... from all pleadings and other papers filed with the Court in civil actions, including exhibits thereto, whether filed electronically or in paper"), see ECF Protocol N.D. Cal., supra note 19; U.S. District Court for the District of Oregon, Order modifying Local Rule 10.3—Personal Identifiers (June 21, 2002), available at http://www.ord.uscourts.gov/PersonalIdentifiers.pdf.
retraining of court staff is a valid concern, it cannot be avoided in this current technological climate. Staffing a Help Desk for a court's electronic filing system will be far different than staffing the counter in the clerk's office.

Archiving court records may also prove interesting, as it is unlikely that courts will have the resources or inclination to convert into electronic formats files of matters pending or already resolved in the pre-e-filing period. Therefore, until the courts discard the pre-existing paper records, it is likely there will remain two distinct archives of case records.

Only a limited understanding of enterprise-wide systems immediately sparks ideas about better management of judicial resources—ranging from juries, courtrooms, judicial staff, and lawyers. With the instant availability of documents and information regarding pending matters, the courts' public profile and the quality of public relations required of the courts will escalate. It can be expected that court efforts to manage pending cases will be considerably more active. The court will be more able to take on the role of dispute manager, as well as dispute resolver.

Furthermore, there should be enormous opportunities to reduce the "costs" of appeal. In general, the opportunities for streamlining the appellate process and the easy availability of the trial-level records to rapidly create the record on appeal, while attractive, will, no doubt, cause time management anxieties for judges and lawyers alike. Hence, there will be a greater demand on judges and lawyers to better manage their time and matters. Commercial printers are unlikely to applaud the efficiency created by the e-filing system, as the reduced "costs" of an appeal means less commercial printing business.

92. E-filing programs do not generally apply retroactively to the thousands of pending cases. In the federal system, the typical ECF/CM pilot project has initially encompassed only a relatively limited number of cases "opened" (i.e. filed, transferred or removed), on or after the pilot's commencement date. See, e.g., CM/ECF FAQ, supra note 12.

Only civil cases are included in the scope of the e-filing program, and all pro se cases, bankruptcy appeals, and Social Security appeals are excluded. Sealed cases and sealed documents are also excluded from the e-filing program... Only a limited number of judges are participating in the program at its inception... Only new civil cases falling within the scope above that are opened on or after April 2, 2001 will be included in the e-filing program.

Id. (emphasis added).
B. Lawyers and Law Offices

1. Overview of Days Gone By

Today's lawyers may not think about it much, but what we do, when and how we do it, how our offices are organized and staffed and, sometimes, even where we are located is dictated by how the courts and government agencies are organized and operated. Lawyer record-keeping systems (accounting records excluded) have been designed to comply with mandates issued by courts, regulatory agencies, and malpractice carriers. Even the organization and storage of non-pleading documents are largely dictated by what statutes, regulations, and rules require.

Most lawyers have elaborate paper-based record systems to assure compliance with court and government agency record requirements. Those paper-based records continue to accumulate and grow as the law office ages. File rooms and filing operations devour significant resources in most law offices. For inactive matters, some practitioners use microfilm, microfiche, or other imaging technology to archive files. However, most entities use some form of off-site warehouses or record storage firm to store paper-based files for completed cases or matters. It is not too great an exaggeration to say that, in the United States legal system, the courts, government agencies, and lawyers are the record makers and keepers for society.

2. Record-keeping, Organization, and Management of Law Offices

Much of the legal and non-legal staff location and activity of law firms and in-house legal departments is driven by the need to create, distribute, organize, retrieve, and maintain information in paper-based record systems. It is with this realization that one must begin to consider the implications for legal professionals if a remotely accessible electronic filing regime were adopted.

Based on the authors' experiences, until e-filing matures in its use of legal XML or some other standard markup language, the biggest challenges to lawyers will be to:

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93. The former partners of some of the failed large law firms have found themselves continuing to pay storage fees for legacy files (in some cases for multiple years) until such files can be returned to clients or destroyed.
(a) develop and train staff to use appropriate protocols for compliance with the individual requirements of the various courts and agencies before which they and their firms practice;

(b) train legal and non-legal staff in how to prepare, perform and preserve electronic filings; and

(c) design an office electronic filing system that will provide an orderly means to internally file, maintain and retrieve copies of the electronically filed records.

Experience to date indicates that each court's and government agency's system is likely to be different. Even in the federal district courts, which are using the same CM/ECF system, there are variations in the compliance requirements.\(^94\) Differences in state and county courts will likely be even greater. A review of N.D. Cal. General Order 45\(^95\) and the draft California Rules for electronic filing\(^96\) illustrates why law offices will need to supplement their record keeping systems to accommodate the initial versions of the various court electronic filings systems currently in use. Only with the adoption of uniform markup language specifications will there be significant relief from having a variety of requirements and, maybe more importantly, a variety of interfaces.

During the period when the various court and government agency e-filing systems are disparate and evolving, law offices may need to create an electronic filing system that mimics the paper-based systems currently in use. It will not be acceptable to rely on the court and agency systems to provide repeated access to pleadings and other documents for a number of reasons, including:

\(^{94}\) E-filing requirements are a bit different in the United States District Court for the Northern District of California (N.D. Cal.) and in the United States District Court for the District of Columbia (D.D.C.). Thus, there are differences between the authors' firm's N.D. Cal. Protocol, and D.D.C. Protocol. See ECF Protocol N.D. Cal and ECF Protocol D.D.C., supra note 19.


1. E-filing information technology is new to most courts and government agencies, and its implementation is likely to be spotty;

2. Some courts and agencies are dependent on counties or other agencies for their information technology at a time when the core competency of those other agencies is not likely to be maintaining e-filing systems for others;

3. It is not clear that all agency and court-operated depositories will be available 7 days a week 24 hours a day;

4. Court security, backup and recovery systems are unlikely to be uniform or (initially) sufficiently reliable for private parties to be comfortable;

5. In response to emergencies and unexpected disasters, it will be reasonable for courts and agencies to triage third-party user requests, with vital internal functions taking priority over remote access sought by third-party users;

6. The software interface for court and agency systems will neither be browser-based nor uniform, whereas a law office will want a system with a uniform user interface that provides access to all e-filed documents;

7. Malpractice carriers may insist that a law office maintain its own copies of filed information; and

8. If the federal court experience is any indication, using only the court or agency depositories will be quite expensive.97

97. The District Courts for the Northern District of California and the District of Columbia are using the Public Access to Electronic Records (PACER) service to make e-filed documents available to litigants and to the general public. For each attorney of record, a one-time access to a filed pleading is free. Starting in late 2002, however, for each subsequent access each of the two courts will begin charging attorneys the general public price of "seven cents per page, with a maximum cost per document of $2.10." ABOUT CM/ECF, supra note 54. In the Northern District of California, subsequent access "[b]illing will begin with the release of Version 1 of the [e-filing] software, . . . expected during the summer of 2002." CM/ECF FAQ, supra note 12. In the District of Columbia, such billing began on July 1, 2002. U.S. District Court for the District of Columbia, ECF/PACER Login, Instructions, at https://ecf.dcd.uscourts.gov/ (last visited Nov. 22, 2002).
Eventually, when the migration to e-filing is complete, there will likely be dramatic changes in law office organization and record-keeping. The extent to which those dramatic changes will affect law office management is less clear. As mentioned above, the organization of law offices is mostly dictated by the paper-based record keeping systems. When the impact of e-filing dovetails with the move to electronic communication—using voicemail, email, instant messaging, etc. and their successors—it is not difficult to imagine a nearly paperless law office.⁹⁸

Even without widespread adoption of e-filing, computerized file management systems have become a necessity for most large law offices. Such systems originated for the purpose of finding files that generate paper records. In addition, it is the paper records that are organized by client and matter, and remain the “official” firm files. Computerized law office file management systems, to the extent they are being used, have not been designed to efficiently organize and manage information by client or matter.⁹⁹ The authors are aware of no law office file management system that uses markup language to create electronic versions practice files. All steps—including access control for highly confidential matters—must all be done manually; electronic documents will have to be properly labeled, indexed, etc.

Law office staff that currently organize and maintain the paper-based record systems will need additional training and skills to handle electronically filed document records. Some day, hopefully, the courts and government agencies will have adopted and implemented the use of a common markup language. Then, practitioners filing electronically will use software to convert their word processing documents to legal XML (or its successor) to put all documents prepared for filing or service into the appropriate filing format. Hopefully, law office file management systems will also be “legal XML,” enabled so law office electronic files can be automatically organized as well.

⁹⁸. Most of the paper that will be created will be caused by the distaste some lawyers have for screen reading and their resistance to editing electronically. In that whatever paper is generated will mostly consist of intermediate drafts, it will likely be discarded (particularly as a prophylactic response to the increased tendency to serve law firms with subpoenas to obtain documents allegedly relevant to a dispute).

⁹⁹. Many smaller law offices may not have such file management systems. They may rely instead on the lawyers or staff to remember where the electronic files are located on their hard disks or servers.
3. Increased Demand for Direct Interaction between Citizens and Government Entities (without attorney intermediaries)

One primary objective of e-filing is for courts and government agencies to improve the service provided to their constituencies. California Governor Gray Davis states on his homepage: “I am committed to using the technologies of the Internet, many developed in our State, to open the doors of government.”\textsuperscript{100} At the federal level, the Firstgov website states: “The New FirstGov.gov. Welcome from President Bush. The Official Government Gateway for Citizens interacting with Government, Business interacting with Government, Government interacting with Government.”\textsuperscript{101}

The OMB Report, referenced earlier, states:

This report presents the federal government’s action plan for E-government. The primary goals for the President’s “Expanding E-government” initiative are to:

Make it easy for citizens to obtain service and interact with the federal government;

- Improve government efficiency and effectiveness; and
- Improve government’s responsiveness to citizens.\textsuperscript{102}

Later, the OMB Report discusses the value of e-government, stating:

E-government provides many opportunities to improve the quality of service to the citizen. Citizens should be able to get service or information in minutes or hours, versus today’s standard of days or weeks. Citizens, businesses and state and local governments should be able to file required reports without having to hire accountants and lawyers.\textsuperscript{103}

Much of the demand for legal services in the United States stems from the need for intermediaries between government institutions and either the citizens or their business entities. The very high per capita ratio of lawyers to citizens in the United States\textsuperscript{104} is attributable to

\textsuperscript{100} Governor’s Home Page, supra note 67.
\textsuperscript{102} E-GOVERNMENT STRATEGY, supra note 64, at 1.
\textsuperscript{103} Id. at 4 (emphasis added).
\textsuperscript{104} As of November 1992, one commentator asserted that “[i]f America stopped its production of lawyers tomorrow, it might peg along for decades before the number practicing
citizens’ need to interact with the enormous number of instrumentalities at all levels of government, carrying out the functions mandated by the constitutions and by federal, state, and local law. Prior to the Internet, the large amount of information that had to be disseminated and gathered by government agencies and understood and provided by citizens produced a marriage of convenience between attorneys and government agencies. This was because no agency could afford to staff the number of people required to interact with citizens one-on-one.

The raison d’être of attorneys is that they make it possible for a civilized society to exist. Attorneys avert the use of physical force as the primary dispute resolution mechanism by:

- instructing and advising the private sector (citizens and entities created by citizens) on how to achieve their objectives in a legal manner; and

- acting as intermediaries between disagreeing parties (including government instrumentalities).

The Internet has suddenly changed the dissemination and information-gathering equation. Citizens can much more easily (and inexpensively) find information needed to understand and comply with the legal regulations applicable to their desired activities. Using the same Internet, citizens can provide required information to government agencies. Browsing the few websites referenced earlier demonstrates how government has reached out to the private sector.105 Courts are very much a part of this effort to reach out by government

per capita fell to the levels of other leading countries.” (The U.S. has 281 lawyers per 100,000 residents; Germany 111; Britain 82; and Japan 11.) Walter Olson, A Country Named Sue, CEO INTERNATIONAL STRATEGIES at 50, 53 (Oct./Nov. 1992), available at http://walterolson.com/articles/ceointl.html. Shortly thereafter, another article noted that “Per capita, [the U.S.] has[30 percent more lawsuits than do the Japanese, one of our main competitors in the creation of wealth. . . In Japan, the ratio of engineers to lawyers is 20 to 1, but in this country it is 2.5 to 1.” Joseph S. Fulda & Patrick J. Vincent, Are There Too Many Lawyers?, THE FREEMAN, at 19 (Jan. 1993), available at http://www.libertyhaven.com/politicsandcurrentevents/constitutionscourtsandlaw/theretoolawyers.shtml.

agencies. Sites such as the Judicial Council of California’s Self-Help Center\(^{106}\) have become wide-spread, as the courts seek to do a better job of helping citizens.

What will be the impact on the legal profession if the government greatly reduced or eliminated the need for attorney and accountant intermediaries? One logical conclusion is a decrease in demand for legal services. Of course, it might also elevate the quality of the intermediaries.

4. Trial Strategies

Trial strategies could be hugely affected by electronic filing, requiring litigants to develop additional criteria for determining what information they will put into the record when litigating their case. Whether there is a huge impact or not will depend on the outcome of the political controversy and dialogue now underway. That discourse concerns whether, for purposes of public record compliance, there is a significant difference between paper records and electronic records.

Privacy advocates believe there is an enormous difference. Information merchants, including the press, have taken the opposite view.\(^{107}\) The press asserts that a “public record is a public record,” regardless of how it is recorded or stored.\(^{108}\) On the surface, their tautology is attractive. It seems self-evident that they find it surprising that a debate exists. Like so many apparent absolutes, however, close inspection causes the proposition to take on a more relative character.

If the only issue were the record’s content, there would be less of a basis for challenging the axiom that a public record is a public record regardless of how it is stored. It is not the “record content” part but the “public” part that poses the problem. “Public record” goes beyond the information contained in the record and expands the discussion to include access and mode of publication. It is the “access” that completes the equation. Public records are records that...


are available to the public, i.e. everyone. Simultaneous, multiple, and remote access, referred to earlier in describing the different character of electronic record systems compared to paper-based record systems, justifies the conclusion that electronic public records are inherently different from paper public records.

Privacy, freedom of information, and the First Amendment have peacefully co-existed for most of the Twentieth Century. When public records become electronic, the co-existence can take on an adversarial character. Information merchants maintain that requiring a record to be "public" means the broadest form of availability. The press vigorously challenges the authority of the courts to limit access to any court record or proceeding. It has been widely accepted that, to pass constitutional muster, any restriction by the court on access to its records and proceedings must be narrowly tailored to serve a substantial government interest. Absent privacy or national security concerns, the public should be entitled to remotely access and copy any public record. In the case of electronic records, that likely means remote and bulk access.

Our society has long been constructing the constitutional balance between the public's right of access to information and the individual's right to privacy. But the balance that has been struck is in a context where the public records are in paper-based systems. While

110. See Complaint, supra note 108.
112. It appears, the courts will be more tolerant of restrictions on bulk transfers. Pat Knighten, Working Paper, Privacy and Access to Electronic Case Files (2000) (on file with authors) (prepared for the Court Technology Advisory Committee to the California Judicial Council, the paper includes an analysis of the privacy issues raised by electronic case files). See also Nixon v. Warner Communications, Inc., 435 U.S. 589, 601-02 (1978); United States v. McDougal, 103 F.3d 651, 658 (8th Cir. 1996) ("as a matter of public policy,... courts should avoid becoming the instrumentalities of commercial or other private pursuits"); and Paisley Park Enters., Inc. v. Uptown Prods., 54 F. Supp. 2d 347, 349 (S.D.N.Y. 1999)

[V]irtually all have an interest in ensuring that everyone in our society have access to a fair and impartial judicial system without having to pay too high a price of admission in the form of the surrender of personal privacy. ... courts must be vigilant to ensure that their processes are not used improperly for purposes unrelated to their role.

Id.
reasonable people can differ, it is unlikely they would disagree with a
government agency's or a court's right to reject a request asking for
all records in a paper-based record system that make any reference to
a particular person or topic. Because of the burden involved,
honoring such requests would either drive the costs of the government
agency or the court to an unaffordable level, or paralyze their efforts
to conduct the functions for which they were created.

Considering the same request for all records referring to a
particular person or topic, where the agency's or court's record
system is electronic, billions of records can now be searched in a few
seconds, without any significant increase in cost. When the records to
be search are in electronic records systems, particularly where the
request is formed and executed by the seeker of the information, most
reasonable people would not agree that such a request is unreasonably
burdensome per se. Why not? The infrastructure required to provide
such searching will likely exist for the agency or court to achieve the
efficiencies (or necessities) that motivated the implementation of
electronic record systems in the first place.

While motions to seal are reasonably common when evidence is
confidential or a trade secret, most prudent lawyers advise their
clients that putting information into a court record carries a risk that it
will become public. E-filing, with its companion electronic recording
system, changes in an extraordinary way what being "public" means.
Being public in records that are "practically obscure"—due to the
burden involved in accessing and searching them—is quite different
than being public in records that any competitor or adversary, with an
Internet connection, can quickly, easily, and inexpensively access or
compile a database with such information.

5. Pleading Practice

The most noticeable change in pleading practice will be the use
of electronic service. Whether the service is by the court or the
parties, it will be nearly instantaneous, and in the case of many
pleadings will simply consist of a notice that the pleading is filed with
the court and is available for review, copying, or downloading. As
suggested earlier, third party service providers are likely to spring up

113. Conradi, 51 F. Supp. 2d. at 1266–67 (a court can place some restrictions on access to
its public records). See also, Westbrook v. County of Los Angeles, 27 Cal. App. 4th 157, 32
Cal. Rptr. 2d 382 (1994) (upholding restrictions on access); Pantos v. City of San Francisco, 151

and provide various services relating to e-filing and service, but it remains to be seen whether such service is a viable long-term business. In any event, a major part of the estimated $11 billion spent for delivering and serving paper court documents should be eliminated.

One significant time and space saving improvement will be a wide-spread use of linking to, rather than duplicating, filed documents. Even with the tools currently available, linking is a much more efficient way to provide files related to a matter without duplicating the documents. Linking will also make it easier and faster to "drill down" or check the accuracy of any reference—whether to a court decision, a filed document or a paragraph in an opposing pleading. Such ease of access should make misquoting a lot more difficult to explain and will hopefully reduce corrective filings. Assuredly, the efficiency of electronic searching of court files (or the duplicate copy of the court files maintained by a party) should be appreciated by everyone.

6. Trial Presentation

It seems fair to say that the cost, dependability and difficulty of using technology to assist in trial presentations have resulted in limiting the use of technological capabilities that have existed for years. Electronic filing will result in increased use of, and growing comfort with, technology and the instantaneous availability of anything in the court’s file. Misrepresentations or distortions, intentional or otherwise, will carry a greater risk due to the ease of access to the original source, as well as to other refutation information.

When judges realize the advantages of electronic searching and instant availability, real time (and possibly video) recording of trial proceedings should likewise increase. Expectations of judges and juries concerning the courtroom teaching abilities of attorneys presenting law and evidence will be constantly rise, as the availability and use of electronic information and presentation spread to society in general. These and many other unnoted factors, therefore, will likely heavily impact trial presentation.

115. See Smith Presentation, supra note 23.
116. O’Connor, supra note 74.
117. Whether the links will be in text form in footnotes or embedded implicitly in highlighted/colored text remains to be seen.
118. That is, of course, provided the courts and attorneys can arrive at a compromise with the court reporters and their powerful lobbyists.
7. Malpractice Standards

It is also hard to imagine that malpractice standards will not also be set higher by the easy availability to attorneys of legally relevant information. What will constitute a reasonable scope of research will undoubtedly encompass a lot more than it did when lawyers needed only "to thumb" the law books. A similar "raising of the bar" should be expected in the arena of factual investigation, which has already come a long way since the days when it was limited to the review of public library hardcopy sources.

8. Workload Stress; Increased Efficiency Often Means More Matters To Be Handled

Many attorneys already believe their profession is the most stress-laden of all professions. The introduction of competition and its growth in the profession over the last three decades have combined with the development of increasingly efficient communication tools to produce a curious result; instead of producing more leisure time as a result of increased efficiency, it has increased the number of matters lawyers are expected to handle. Immediate availability is becoming a normal client expectation as a result of email, voicemail, personal digital assistants and cell phones. Some may believe increased client expectations, caused by use of efficient tools, are a primary factor in the resistance of the profession to adopting the new tools. To some extent, the slow adoption of more efficient practice tools by lawyers has decreased the attractiveness of investing in efforts to develop such tools for legal professionals.119

One thing is certain, increased efficiency will in fact mean that most lawyers will take on more matters. More matters, if one is true to one's professional obligations, will mean worrying about more client problems, with the concomitant increase in the number of interruptions and deadlines. All these changes undoubtedly translate into more stress.

C. Clients

In some ways clients may be less traumatized than lawyers by the migration from paper-based record systems to electronic record systems. Most clients have more experience with electronic records

119. History reveals that LexisNexis was not profitable during its first 20 years, despite the millions of dollars being spent to develop its database. Nevertheless, a succession of owners continued to invest in creating an alternative to West Publishing's Reporters. Arguably, it was only when the system changed its focus to provide more than merely court decisions that Lexis became a viable business.
and are more sophisticated users of electronic information processing than do their attorneys. Businesses have been using databases and complex electronic processing since the 1960s.\textsuperscript{120} They have over 30 years of experience with real time systems. To the extent lawyers are using electronic information processing—and only a minority of lawyers are sophisticated users—it has been since the early 1990s.\textsuperscript{121} However, having more extensive experience does not mean client record-keeping will be immune to significant change; it only means clients will have less difficulty adjusting.

1. Client Record-Keeping, Organization, and Management

The single greatest influence on client record-keeping, organization, and management is the required paper reports that have to be prepared and in many cases periodically filed with government agencies and sometimes courts. The second greatest influence is the information needed for operating the business in a dynamic competitive global economy. These two factors have caused most businesses to string together information from legacy systems with newly developed web applets to generate the necessary reporting. With the upsurge of e-filing, particularly by government agencies, it seems logical that most, if not all, regular periodic government reporting will be automated.\textsuperscript{122} Client systems will electronically generate the required reports and, after some acclimation period, will likely electronically file the required reports automatically.

Clients and their attorneys will have to focus on how, and in what form, copies of the electronic filing and reporting will be preserved.\textsuperscript{123} A problem that has not received much public attention is the nature of real-time systems. Such systems involve databases that are continually being updated. To the extent that updating


\textsuperscript{121} Word processing is more akin to typing than to electronic information processing, and for that reason it should not be considered electronic information processing.

\textsuperscript{122} See e.g., Phillip Inman, £3,000 Fine if Paye Stays Offline, GUARDIAN UNLIMITED NETNEWS (May 10, 2002), at http://www.guardian.co.uk/intemetnews/story/0,7369,713090,00.html (this recent on-line news story stated that British “[e]mployers face fines of up to £3,000 if they refuse to file their tax returns using the internet, under proposals in the finance bill”).

\textsuperscript{123} Although it is beyond the scope of this Essay, it is worth noting that preservation requirements will have to encompass versions of the software and hardware required to get access to previously filed electronic reports. Software, hardware, and operating systems are constantly changing, such that, at some point, data generated and stored by earlier versions of any of these elements will likely become incompatible with current versions.
changes information in the database at a particular point in time by overwriting older data, how do you determine what the information was before it was changed? What about the obligation to preserve evidence?

2. Increased Self-Service Capacity

It was noted earlier that a primary objective of e-filing and e-government is to permit the private sector (citizens and business) to interact directly with the government. Such interaction will provide clients with important self-help abilities. Non-legal employees can be expected to perform functions for which lawyers have traditionally been used. If the promise that motivates e-government is realized, clients will be able to eliminate or significantly reduce what many consider "extraordinary" costs of legal services.

3. Potential Increased Access by Claimants and Plaintiffs to Government Agencies and the Courts

"It will open the flood gates" has long been the cry of opponents to new laws or new interpretations of old laws. It is difficult to assess whether clients' increased direct access to government agencies—particularly those charged with enforcing the laws and regulations—and courts will result in a larger number of claims being filed against those clients. At a minimum, the increased access to public records, including court decisions and agency actions, will surely enhance the sensitivity of citizens and competitors to their rights, potential claims, and remedies. One would certainly think that the opportunity for class action claims would be increased with the greater availability of detailed information about claims that have been filed against a particular defendant.

4. Transparency of Operations

Since the revelation of the Enron debacle, there has been much discussion about the need for greater transparency of business operations. Clients continue to make available—either on their

124. The higher the public profile of electronic records and filing, the more likely it becomes that adversaries and government investigators will start demanding discovery of electronic records beyond emails. E-discovery is the topic of the companion essay that is being presented with this Essay on e-filing. Lisa M. Arent, Robert D. Brownstone & William A. Fenwick, E-Discovery: Preserving, Requesting & Producing Electronic Information, 19 SANTA CLARA COMPUTER & HIGH TECH. L.J. 131 (2002).

125. The companion essay regarding e-discovery, explores the answers to these questions.

own websites or on government websites as a result of electronic filings—more information about their businesses. In that regard, it is safe to say that a lot more information is going to be available at less expense to competitors and adversaries.

5. Public Relations Management During Litigations and Other Disasters

In the last ten years, as the Internet has really become available to the American public, the wide dispersion of huge volumes of information, good and bad, has accelerated from days and weeks, to seconds and minutes. E-filing will add to the volume of information that is almost instantaneously available about adverse developments. It will mean that part of the early planning for any litigation will be a game plan for handling the public relations issues likely to fall out of the anticipated litigation. Most competent counsel is now conscious of the need to think about the public relations aspects of litigation. Counsel and the client will have to move up the priority of public relations and probably employ more public relations professionals as e-filing systems become the standard.

6. Clients’ Discovery Burden

A safe bet is that e-filing will increase the amount of information requested in discovery. Easy availability of information about people, businesses, regulatory proceedings and court actions will provide

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When Adam Smith described the concept of markets in the Wealth of Nations some two and a quarter centuries back in 1776, he theorized that, "if every buyer knew every seller’s price, and if every seller knew what every buyer is willing to pay, everyone in the market would be able to make fully informed decisions and society’s resources would be distributed efficiently." [The] Internet with its WWW of networks and computers and databases, and friendly graphical user interfaces like Netscape Navigator and Internet Explorer, comes close to this ideal of instantaneous access to most current information by all at all times. Id.

129. A more complete discussion of the impact of our high-tech era of e-filing on discovery is contained in the companion essay on e-discovery. E-Discovery, supra note 124.

130. You may be surprised if you run a search on your name or the name of your business in Google, LexisNexis, or one of the many people locator sites available on the Internet. For a number of years there have been searchable databases that provide information about businesses, but only a few lawyers have regularly used them.
inquiring counsel with more information to inspire their imagination when engaging in all forms of discovery. Imagine how advantageous it might be to determine, well before the commencement of a deposition, if and how the deponent has previously testified in any other court or government proceeding. The research that is currently done regarding experts and their background will likely be done for almost any deponent. Through information voluntarily made available on private websites, it is already possible to easily amass information about almost any person, business, or product. E-filing will greatly increase the amount of information available, and that will increase the information opponents will likely seek.

Not to be forgotten is the importance of burdensomeness in supporting a motion for a protective order. As more information becomes available electronically, there will be a concomitant difficulty in convincing a court to reduce the scope of production/discovery.

D. Citizens

1. Overview

On balance, citizens should be markedly advantaged with the widespread adoption of e-filing. Citizen access to government agencies and the judiciary will be broadened, and invoking the processes of the agencies and the courts will be made much easier and less expensive for most individuals. Interaction by private citizens with government agencies and the judiciary will be much more convenient and less time-consuming. On-line payment of traffic tickets, filing of small claims actions, obtaining permits (or


Millions of California drivers who get traffic citations will be able to pay their tickets on-line by clicking on the state’s My California site, thanks to a joint effort by the Judicial Council of California and the state’s Executive Branch. (http://www.ca.gov/state/portal/myca_county_courts2.jsp) Starting today, the My California site will provide links to the five state superior courts that offer online traffic citation programs. The information will promote the courts’ efforts to process traffic cases more efficiently and modernize court operations, a priority of the Judicial Council of California, the policymaking body for state courts.

132. See, e.g., Small Claims Court site hosted by the California Superior Court for Sacramento County, at http://www.appss-saccourt.com/scc/ (one of the many state court e-filing programs linked off of the NCSC table, supra note 51).
certificates or licenses), and other interactions that now cause the loss of a half-day to a day of work are being transitioned to on-line. Consequently, citizens can avoid personal appearances, time-wasting queues or other inconveniences. Administration of the jury system can be expected to become more efficient and less burdensome for citizens as well.

Another important benefit will be the ability to deal directly with many situations that now require a lawyer intermediary. Interaction with a number of social service agencies will be simplified. There is a price that may have to be paid in the form of greater risks to privacy, but many citizens are demonstrating a greater willingness to take the additional risk.

2. Privacy

As more information is accumulated in the electronic exchanges with government agencies and the judiciary, there is a greater opportunity for loss of privacy. Most of the actual losses of privacy to date have occurred inadvertently, principally because of failures to think through the implications of making certain information available or because hacking was facilitated by lax security measures. Electronic filing in courts poses a different kind of risk. The loss of practical obscurity for public court records is real, and not all of the actions required to prevent it have been adopted or implemented.

The United States Supreme Court in United States Dep't of Justice v. Reporters Committee for Freedom of the Press (hereinafter "RCFP") recognized that the effort required to gather information about individuals from court paper-based record systems meant "practical obscurity" for such records. The Court found that there is a "vast difference between the public records that might be found after a diligent search of courthouse files, county archives, and local police stations throughout the country and a computerized summary located in a single clearinghouse of information." The practical obscurity of such records protects third parties and litigants from being injured by the misuse of information disclosed in court

133. See, e.g., City of Los Angeles Dep't of Building and Safety, LADBS e-Permit System, at https://www.permitla.org/ (last visited Nov. 19, 2002); and Georgia Dep't Wildlife Resources, Permits and Licensing Division, at https://www.dnr.state.ga.us/dnr/permits.html (last visited Nov. 19, 2002) (link to a government site where state residents can obtain hunting and fishing licenses).


135. Id. at 764.

136. Id.
proceedings. On the basis of that difference, the Court upheld some restrictions on the access to a database containing summaries of information contained in criminal "rap sheets." It is not an exaggeration to say that a substantial amount of the protection provided for information contained in public court records is provided by the "vast difference" referred to by the Supreme Court.

Already, many feel that the press too often uses invasive tactics to obtain and publish what many consider to be private information to boost circulation and viewer reach, rather than advancing the intended purpose of freedom of press, as contained in the First Amendment. The Court in RCFP defined the public interest in court records being public as "shedding light on the conduct of any Government agency or official," rather than acquiring information about particular private citizens. The Court also held that "the fact that an event that is not wholly private does not mean that an individual has no interest in limiting disclosure or dissemination of the information."

The risk of invasion is obvious once one is made aware of the "vast difference" in availability of records contained in a paper-based record system compared to those contained in an electronic record system. Still, it would be unwise to believe that knowledge of the problem will mother the solution. Information merchants have a powerful vested economic interest in keeping to a minimum the restrictions that are imposed on court electronic record systems. One executive in the technology industry has been quoted as saying,

The privacy you're concerned about is largely an illusion. All you have to give up is your illusions, not any of your privacy. Right now, you can go onto the Internet and get a credit report about your neighbor and find out where your neighbor works and how

137. See id.
[Some] prominent cases reflect the strategies ... individuals and corporations are using to battle back when they feel harmed by news reports. More plaintiffs are using elements of privacy law to attack the newsgathering techniques of reporters and photographers as they cover accidents, drug raids and shady business practices. In some cases, the torts of intrusion and intentional infliction of emotional distress are central issues in the complaint. Although truth remains a core defense in defamation cases, juries are increasingly using the behavior of journalists as a measuring stick for wrongdoing. When the methods used are unethical, jurors aren't buying the "ends justify the means" argument.

Id.

140. Id. at 770.
much they earn.\textsuperscript{141}

Many privacy advocates are unwilling to accept such a \textit{fait accompli}, and are vigilant to point out real and potential incursions on privacy.\textsuperscript{142} The political dialogue required to reach a compromise, and thus create an appropriate balance, is unlikely to take less than a decade of litigation and political action to coalesce.

\textit{E. Government}

E-filing could very well enable the government to efficiently serve the public in ways the government has constantly promised to do so, but has fallen short. If all the turf wars and bureaucratic inertia do not result in gerrymandering the government's enterprise solution to the issue of information transfer, there are remarkable advantages to be had for government and citizens. At the same time that it achieves these remarkable advantages, e-filing can facilitate the destruction of individual privacy. In any event, when the public becomes aware of e-filing's potentials, it will have a sizeable impact on the public's expectations of government. There are at least three risks the government faces as it moves forward with e-filing: (1) disappointing public expectations on increased service and decreased cost, (2) adverse impacts on individual privacy; and (3) loss of flexibility and sensitivity in dealing with citizens.\textsuperscript{143}

The government faces raised expectations of more efficient service by the citizenry as a result of the promises of e-government and the public's general acclimation to on-line transactions. Experts in the Office of Management and Budget\textsuperscript{144} are not the only ones who can see the enormous potential e-government has for reducing the

\textsuperscript{141} Jane Black, \textit{Don't Make Privacy the Next Victim of Terror}, BUS. WK. ONLINE (Oct. 4, 2001), at http://www.businessweek.com/bwdaily/dnflash/oct2001/nf2001104_7412.htm (quoting Larry Ellison, CEO of Oracle; reporting that, on the heels of the events of September 11, Ellison offered to donate software that would enable the creation of a national ID system).


\textsuperscript{143} \textit{See E-GOVERNMENT STRATEGY, supra} note 64.

\textsuperscript{144} We live in an increasingly interconnected society, where the Internet has spawned tremendous improvements in efficiency and customer service. People use the telephone and the Internet to get service 24 hours a day, seven days a week. More than 60 percent of all Internet users interact with government websites. E-government will save taxpayers a significant amount of money, while adding value to citizens' experience with government and better serving their needs. \textit{See id. at} 1.
burden on private citizens and businesses. Many citizens over the age of forty realize they have provided a variety of government agencies with the same information dozens of times by filling out forms for the purpose of interacting with the government.

Increased efforts will be expected of the government to protect the privacy of citizens. Though it is not rational to believe that government has a diabolical intent to destroy privacy, it is likely that such inherent destruction is the result of inadvertence. It remains to be seen though whether the government is willing to bear the costs that will be necessary to construct an infrastructure that will take advantage of the potential and still provide the protection that has been achieved through "practical obscurity."

It has long been thought that a large single system serving an entire enterprise leads to centralization of authority and decreased flexibility. A tendency toward centralization will likely flow from the successful implementation of e-government. Whether that is good or bad will have to wait for a few years until there has been a broader adoption. It should not be assumed that centralization of government always produces either a negative impact on flexibility or insensitivity to citizens' needs. It will ultimately depend on how that centralization manifests itself.

V. CONCLUSION

E-filing is not about simply making it possible to transmit information electronically. It is about a change in the basic infrastructure used by citizens and the government to deal with one another. If the government continues enthusiastic adoption of

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While many government site users focus on their personal needs in dealing with government agencies, there is abundant evidence that a new "e-citizenship" is taking hold: 42 million Americans have used government Web sites to research public policy issues; 23 million Americans have used the Internet to send comments to public officials about policy choices; 14 million have used government Web sites to gather information to help them decide how to cast their votes; and 13 million have participated in online lobbying campaigns.

Id.


electronic information technology, radical changes are going to occur. Since the creation of courts and administrative agencies, many political candidates have campaigned and won elections by promising massive changes in the way the government services the people.\textsuperscript{148} Most of those same politicians have failed because of the strength of these government institutions and their resistance to any effort to change them.\textsuperscript{149} Turf wars between branches of government and among agencies have hampered even the most obviously needed effort to coordinate the actions of the myriad of local, state and federal bodies—all created to meet the same perceived need. Maybe the potential of e-filing will serve as the missing catalyst for such coordination. Maybe e-filing will inflict the most powerful blow yet against the desire of many to stop government intrusion into the life of citizens. Will e-filing be the catalyst, the intruder or both? It is too soon to tell.

\textsuperscript{148} For some of the pertinent comments made in the last two Presidential election years, see, e.g., Alison Mitchell, Big Government Cannot be Compassionate, N.Y. TIMES at 99 (Nov. 1, 2000), available at http://issues2002.org/Celeb/George_W__Bush_Government_Reform.htm (last visited Nov. 19, 2002), quoting George W. Bush ("My concern about the role of the federal government is that an intrusive government, a government that says, 'Don't worry, we will solve your problems' is a government that tends to crowd compassion out of the marketplace"); and BILL CLINTON, BETWEEN HOPE AND HISTORY (Jan. 1, 1996), available at http://issues2002.org/Celeb/Bill_Clinton_Government_Reform.htm (last visited Nov. 19, 2002) ("Ever since the Reagan Revolution of 1980, the dominant Republican argument has shifted from 'less government is almost always better than more of it' to 'government is always the problem.' Our administration and the new Democratic Party take a different view. We say the era of big government is over, but we must not go back to an era of 'every man for himself.'").


Deregulation became a watchword of the Reagan administration, but critics charged that reduced regulation created hazards to public health and safety. During his first term, the president sought to shift dozens of federal programs to the state and local levels under his system of 'new federalism.' Officials in these jurisdictions complained that promised federal aid to implement the programs was inadequate.

\textit{Id.}, (quoting The Presidency, in GROLIER ENCYCLOPEDIA ON-LINE, Dec 25, 2000).