

EXHIBIT B

ELECTRONIC CASE FILES IN THE FEDERAL COURTS:

A Preliminary Examination
of Goals, Issues, and
the Road Ahead

Discussion Draft

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Administrative Office of the United States Courts
Leonidas Ralph Mecham, Director

ELECTRONIC CASE FILES IN THE FEDERAL COURTS:

A Preliminary Examination of Goals, Issues, and the Road Ahead

For more information, contact
Gary L. Bockweg
Applications Management and Development Division
Administrative Office of the U.S. Courts
Phone: (202) 273-2500
Fax: (202) 273-2459

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This paper was prepared by staff of the Administrative Office of the United States Courts, with substantial assistance from judges and court staff, to aid the deliberations of the Judicial Conference of the United States and its committees. The ideas expressed in this paper do not necessarily reflect the policies of the Conference or any committee thereof, any court of the United States, or the Administrative Office.

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Electronic Case Files Study Project Participants

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Executive Summary

Background

The federal courts can reduce their reliance on paper records by using new technology to file, maintain, and retrieve case file information in “digitized” form. The transition towards electronic case files (“ECF”) in the federal courts is underway. Some courts already are working to identify and acquire appropriate technology. New federal rules facilitate a court’s decision to accept electronic filings. And the Judicial Conference’s Committee on Automation and Technology has designated ECF as a top priority initiative and has set a goal to proceed with ECF within the next three to five years.

The benefits of ECF—for the judiciary, for lawyers, and for the public—seem profound and irresistible. The key questions are: How soon? How will it work? At what cost? Producing what benefits? This paper is intended to stimulate discussion, both inside and outside the judicial branch, and suggest possible approaches for resolving those basic questions as well as related policy issues that need to be addressed. It recommends a preliminary “action plan” for implementing ECF, describes a hypothetical ECF system, anticipates its potential benefits and basic functional characteristics, identifies the principal issues to be addressed as courts move towards ECF, and discusses the proposed interim Technical Standards for ECF. The ideas expressed will provide a conceptual framework for the Judicial Conference and its committees as they consider the policy implications of ECF for the federal courts and determine the manner in which the initiative should be pursued.

Key Benefits, Costs and Capabilities

It is anticipated that ECF will produce an impressive range of benefits to the courts and the people who use the courts, including—

- improved judge, court staff, and public access to case file information
- cost savings and efficiencies through increased productivity, and more effective utilization of staff, space, and other resources
- reduced physical handling, maintenance, and copying of file documents
- improved docketing, scheduling, case management, and statistical reporting; and
- enhanced accuracy and efficiency in record maintenance.

The primary costs of an electronic case files system will be: (1) the staff costs for planning and implementation (including identification of new business processes and training), and (2) the costs of equipment and communication services. For all proposed implementation, a business case will be prepared to show that the benefits will exceed the costs.

A fully developed ECF system will capture documents electronically at the earliest possible point, ideally from the person who creates the document. The system will not only contain everything presently included in a paper case file but could also encompass the court's internal case-related documents. It will provide access to case files in ECF systems throughout the federal judiciary and include links to relevant information in automated court financial and other records, and perhaps even to texts of case law, statutes, and other legal authority such as those accessible through the Internet.

To meet the needs of all users, an ECF system will include capabilities to—

- make electronic documents easily printable for users who require a paper copy
- provide easier, more immediate, and less costly access to case information at courthouse and remote locations alike
- facilitate creation and use of electronic files by all litigants (including pro se parties) and court personnel (including judges and all court administrative units); and
- preserve, and indeed enhance, the integrity of the public record and confidentiality of sensitive or privileged materials through effective court control and appropriate security measures.

Key Issues

Cultural, policy, legal, technology, and staffing issues related to ECF must be—and, in some respects, are already being—addressed through the judiciary's normal decision-making processes (e.g., coordinated action by the Judicial Conference and its committees). Among those issues that must be resolved either before or early in the system implementation process are ones relating to—

- authentication, security, and preservation of electronic documents
- possible changes in procedural rules governing service, notice, timeliness, and format
- ensuring appropriate access for all users, and obtaining their participation
- funding of new systems and services (i.e., through appropriations, user fees, etc.), including basic decisions on the timing and extent of judiciary financial and human resources that will be devoted to pursuing the ECF initiative

- management of judiciary resources (e.g., staff utilization, education and training; allocation and use of courthouse space)
- potential use of commercial providers of electronic filing services (e.g., public access to court records, custody of public documents, document security, procurement requirements, and court staffing)
- integration of ECF systems with other automated sources of litigation-related information; and
- action on myriad administrative details needed to implement a timely shift from paper to electronic files.

Some of these issues will require policy decisions by the Judicial Conference or by individual courts. Others may require legislative or rules changes. And some will be resolved by making choices based on practical considerations. In all cases, the judiciary will find it easier to answer difficult questions of court administration and policy if ongoing experiments and pilot projects are used to test alternative approaches and provide sound empirical data.

Prototypes, Products, and Services

An electronic case files system provides electronic versions of documents traditionally stored as papers in a case file folder. These electronic documents can be easily retrieved by the court, the bar, and the public who can view them on a computer screen or print them to paper. Some of the electronic documents might be stored as scanned images, but eventually most documents should be electronic text files submitted directly by the attorney or other filer and automatically docketed and stored by the system.

A number of federal and state courts are already operating prototype systems. Using an ECF system developed by the Administrative Office of the United States Courts, the Northern District of Ohio began receiving electronic filings in maritime asbestos cases via the Internet in January 1996. Their system now manages over 5,000 such cases and has saved the court from handling over 100,000 paper documents. Nearly 50 attorneys from around the country have not only submitted those documents in electronic form, but also simultaneously and automatically created the court's official docket entries. A similar Internet-based system began operation, with Administrative Office assistance, in the Southern District of New York (Bankruptcy) in November 1996, and another will begin operation in the District of New Mexico early in 1997. A number of courts, including the Southern District of Texas, the Western District of Oklahoma (Bankruptcy) and the District of Kansas (Bankruptcy), have begun constructing their own electronic case files by having court staff scan paper documents into their systems. In addition to prototypes developed in the judicial branch, commercial vendors like LEXIS-NEXIS, West Publishing, Andersen Consulting and Ameritech are experimenting with products and offering services to

courts and attorneys. These prototypes demonstrate not only that technology is available today, but also that many in the judiciary and the bar are ready to move forward and tackle the many cultural, legal, and policy issues that arise.

Recommended Course of Action

A consensus is beginning to emerge, among many who have studied and discussed electronic case filing, in favor of a few basic principles to guide the implementation of ECF in the federal courts:

- Implementation should be coordinated nationally by the Automation and Technology Committee working through the Administrative Office and designated advisory groups of judges and court staff.
- Requirements should be identified, alternatives will be explored, and approaches will be chosen that best serve overall judiciary needs. The process will follow appropriate life-cycle management principles, and it will draw on focus groups, work groups, and centrally coordinated prototypes.
- Other Judicial Conference committees with responsibility for rules, case management, and other litigation procedures should participate in defining requirements and addressing other policy issues.
- Within three to five years, a centrally funded and supported model ECF system should be made available to all interested courts. The model system should emerge from the various prototype efforts, the commercial market, or new development. It will provide a standard core capability and have a modular design to facilitate staged implementation, tailoring, and enhancement at the local court level.
- The model system should provide capabilities that enable maximum space and manpower efficiencies for courts who choose to fully utilize the system.
- Courts may elect to implement the model system or systems of their own design, but all ECF systems should adhere to prescribed national technical and data standards to assure uniform access to case information and comply with statistical and other reporting requirements.
- Modernization and replacement efforts for existing, nationally supported case management systems should be integrated with ECF implementation.

Acquiring and implementing a system that reflects those central ideas will require cooperation, information sharing, and accommodation of different user interests. The process must adapt

to rapidly advancing technology but will, at a minimum, require prototype development, experimentation, broad consultation, and development of national standards for data the system will handle.

On a national level, action is underway to develop a centrally funded, centrally supported “core” system that interested courts can use, and build upon, to implement ECF. If the requisite resources are allocated, such a system can be made available within the next three to five years. This study effort, various prototypes, and other efforts will continue moving toward that objective. Identification of requirements and alternatives should be completed by mid-to-late 1997. Then, acquisition can begin and that process could take anywhere from a number of months to a few years. A decision to adopt and adapt an available prototype or commercial system could lead fairly rapidly to implementation, while a decision to fully develop a new system would probably require more than a year of development time before implementation.

The action that is most needed now is for the judiciary’s decision makers to become familiar with the information and issues,* and to formulate and express their opinions. Individual courts that are eager to move forward should also begin the critical and time consuming preparatory work of reviewing their paper flow and associated business processes in light of ECF’s potential; meeting with court staff, the bar, and other users and providers of case documents to assess their functional requirements; and developing a plan for implementation.

* In a memorandum to judges and clerks dated November 22, 1996, the Director of the Administrative Office identified some of the key issues to be considered as courts proceed to authorize electronic filing pursuant to the revised Federal Rules. *See* Appendix A.

I. Overview of the ECF Initiative

Efforts to develop and implement electronic case files (“ECF”) in the federal courts are one of the judiciary’s four priority “Information Resources Management Initiatives,” which are intended to:

create a virtually seamless web of integrated systems and applications that allow the judiciary to receive, store, and share information efficiently while maintaining costs and maximizing the productivity of its decision makers.¹

The overall objectives of the ECF initiative are to seek consensus on, and expedite the implementation of, judiciary-wide electronic case file systems. It will do so by:

- identifying the courts’ functional requirements for electronic case files
- developing the policy, legal, and technical foundations for electronic case files
- initiating the resolution of pertinent policy, legal, and administrative issues
- assessing federal, state, local, and commercial ECF prototypes
- developing a preliminary estimate of the benefits and costs of ECF
- expediting development of national technical standards and data elements.

This paper articulates a vision and recommends an action plan to promote immediate and long-range progress towards ECF. It identifies key issues for consideration and encourages carefully designed experiments to test a range of ECF alternatives, all within the umbrella of a coordinated national effort. Experimentation is essential to identify and resolve practical problems and procedural issues, evaluate technical options, and assess the costs and benefits of electronic case files.

Beginning in December 1996, individual courts have been authorized to provide for electronic filing of documents under local rules, as long as those rules are consistent with any technical standards that the Judicial Conference may establish.² Part V of this paper summarizes the proposed interim “Technical Standards for Filing by Electronic Means” that have been developed

¹ *Long Range Plan for Automation in the Federal Judiciary, Proposed Fiscal Year 1997 Update*, at 10 (Dec. 1996). The other three IRM initiatives declared by the Committee on Automation and Technology are electronic courtroom, video telecommunications, and Internet/Intranet.

² Fed. R. Civ. P. 5(e); Fed. R. Bank. P. 5005; Fed. R. App. P. 25(a)(2)(D) (all effective Dec. 1, 1996). Fed. R. Crim. P. 49(d) provides that papers in criminal actions shall be filed in the manner provided in civil actions.

for future consideration by the Committee on Automation and Technology and the Judicial Conference. Those standards and accompanying guidelines, which are being circulated for comment by bench and bar under separate cover, are included at Appendix B.

This paper was prepared by staff of the Administrative Office of the United States Courts, with substantial input from judges and court executives, to assist the Committee on Automation and Technology and other Judicial Conference committees in pursuing the ECF initiative. Follow-up reports will include additional analysis of ECF experiments and prototypes, assessment of costs, benefits and other “business case” issues, and further guidance for the courts.

A. Why Electronic Case Files?

Although judges and court staff now have electronic access to docket information, case management data, and legal research materials, the underlying documents in the case file remain available to judges and judiciary staff only in paper form.³ With the advent of word processing and the prevalence of computers, however, it is reasonable to assume that most documents now generated in litigation are created first in electronic form—only later to be printed, copied, and filed with the court. The federal courts can further reduce their reliance on paper records by establishing electronic case file systems—i.e., procedures and methods for using electronic equipment to file, maintain, and retrieve case file information in “digitized” form. Electronic case file systems should enhance the accuracy, management, and security of litigation records, reduce delays in the flow of information that slow the adjudication process, and achieve cost savings for the judiciary, the bar, and litigants.

Judges, court staff, and Administrative Office staff responsible for shaping the court’s automation programs have advocated a judiciary-wide transition towards the ultimate goal of reduced reliance on paper case files.⁴ Judiciary studies over the past decade have concluded that ECF offers great potential to enhance court services, assuming certain policy and administrative

³ Most litigants already have access to their own pleadings electronically. In addition, litigants have already begun to use in their business operations the kinds of computer technology that would facilitate operation of an electronic case file system. According to surveys conducted by the Chicago-Kent Center for Law and Computers, the proportion of attorneys using computers in the 500 largest law firms jumped from seven percent in 1985 to 70 percent in 1993.

⁴ The Director’s Automation Planning Council stressed their strong support of the ECF Initiative by recommending the intentionally optimistic goal “that by the year 2000, the United States courts terminate their primary reliance on paper as a means to access information and adopt electronic information systems that would permit simultaneous access by the various constituencies of the judiciary, litigants, and the public, as well as the production of reports that would allow for the just, speedy, and equitable resolution of disputes.” See also Umbrella Group Functional Strategy Statements contained in *Long Range Plan for Automation*, *supra* note 1.

issues can be resolved.⁵ The primary reasons for embracing ECF now, as articulated by the judiciary's automation umbrella groups, are that:

- Paper files can be cumbersome to organize and retrieve quickly.

The courts require more immediate access to filed documents.

- Paper files are usually only available to one person at a time.

The courts require simultaneous access to case files.

- Paper pleadings must be transmitted by mail or by hand delivery in multiple copies for manual distribution to judges and others.

The courts require rapid and reliable methods for sending and receiving information to and from litigants.

- Paper files require constant maintenance and significant storage space, may be lost, disassembled, or misfiled, and are difficult to keep up-to-date.

The courts require a more efficient and effective process for managing the information contained in the case files, and for maintaining the integrity of the files.

- The paper file system leads to duplicative copying, filing, and data entry.

The courts require more efficient means to duplicate and access case files, and to transfer files and documents among courts, records centers, and others.

Litigants will benefit from simpler and more time-sensitive methods to transmit documents to the court, and from immediate electronic access to filed documents.

B. Approaches to ECF: Ongoing Experiments

The movement towards electronic case files is part of an ongoing, national business process of innovation in filing, storing, managing, and disseminating information. In addition to several federal and state court experiments with ECF, federal agencies such as the Internal Revenue

⁵ A precursor to this initiative was the "Electronic Document Processing Project" in the early 1990's. Many of the administrative and policy issues addressed in this paper were previously identified and considered by, among others, the project's Human Factors and User Acceptance Working Group.

Service and the Securities and Exchange Commission have established electronic filing programs. In the private sector, “electronic commerce” (e.g., electronic funds transfer, credit card charges, and insurance claims) is already a fact of life, and it is rapidly expanding and improving. The courts can, and should, take advantage of these new ways of doing business to enhance their productivity and service to the public.

The ECF project staff has conducted research to identify ECF activities already in place in some federal and state courts and administrative agencies, as well as in private organizations. When possible, project staff visited court sites to conduct interviews and collect additional data. This section presents a brief summary of ongoing electronic filing and imaging experiments in various courts. Appendix C contains further information on these and other ECF experiments.

1. Electronic Filing

These experiments have the attorneys not only filing electronic case documents but also specifying automatic docket entries. They include:

a. Internet Gateways: The United States District Court for the Northern District of Ohio is experimenting with electronic filing of 1996 cases on its maritime asbestos docket. Attorneys gain access to the court's electronic filing system through the Internet (although the system could work on any network). The system then guides the attorney through interactive steps to submit the document and specify the proper docket entry. Electronic documents and docket entries are automatically stored in the court's computer for viewing by the bench, the bar, and eventually the public. In its first year of operation (beginning January 1996), more than 50 attorneys from around the country submitted nearly 20,000 electronic documents and 100,000 docket entries. The system provides all the case management capabilities needed for the asbestos cases. A similar system, with more robust case management capabilities, began live operation in the Bankruptcy Court of the Southern District of New York in November 1996.

b. Electronic Data Interchange: The Bankruptcy Court of the District of New Mexico plans to issue notices and accept electronic petition data in electronic data interchange (EDI) format. Commercial software vendors have built the EDI capability into their bankruptcy packages. Newly-developed court software would use that data to open cases automatically in the Bankruptcy Court Automation Project (BANCAP) electronic docketing and case management system. Initially data will be submitted on diskette, but the process will be upgraded to have the data transmitted electronically.

c. Process Innovation: The electronic filing system for the district and bankruptcy courts in the District of New Mexico is part of a district-wide “engineering” effort to examine not only systems but all procedures of district and bankruptcy court operations, including chambers, to increase

efficiency and effectiveness. The filing system under development will allow remote filing through the Internet. The court has plans for real-time access to PACER (Public Access to Court Electronic Records), which will be open to the bar as a pilot without charges, and has already implemented a real-time master calendar.

d. Third-Party Vendor: CLAD (Complex Litigation Automated Docketing) is in use at the Delaware Superior Court for insurance coverage cases. The system is owned and operated by a private vendor (LEXIS-NEXIS) which stores data files and allows parties access to documents and to conduct full-text searches. Newer versions of CLAD are being tested elsewhere. The Bankruptcy Court for the Southern District of New York has also experimented with CLAD and West-File (West Publishing Company) in two large Chapter 11 proceedings in that court. These systems provide very limited case management capabilities.

e. Public-Private Partnership: The Prince George's County District Court in Maryland and a private vendor (Andersen Consulting) co-sponsored development effort for a filing system, JusticeLINK. The court accepts electronic filings from various participating attorneys for motor vehicle torts and foreclosure cases. The project, currently inactive, envisions the ultimate establishment of a virtual courthouse that electronically connects the court, lawyers, and the community efficiently and profitably. The vendor helps the court develop a link between the filing software and the court's case management system.

2. Imaging

Document imaging efforts—that is receipt of paper documents from attorneys, followed by electronic scanning into image format—include the following:

a. All Case Documents: The Bankruptcy Court of the Western District of Oklahoma has implemented an imaging system to store all case file documents in an electronic case file. A case is opened and entered into BANCAP in the normal fashion. However, case processing staff also scan the submitted documents into a computer database. By using the BANCAP case outline, they link each scanned document to a docket entry. The file is circulated electronically or as copies printed from the electronic file. Remote access is being tested.

b. Specific Function: Image scanning in the Southern District of Texas (district and bankruptcy courts) focuses on noticing and storage of orders signed by judges. The docket clerk makes the usual ICMS (Integrated Case Management System) entry for the order and the paper is scanned. All images are stored on a fixed disk and retrieved using the associated case number. For noticing, the scanning clerk commands the computer to transmit the order image via fax modems to the appropriate attorneys' offices, or where fax modems are not available, to printers for mailing.

c. Case Management Support: The Bankruptcy Court for the District of Kansas established imaging as a means for reduced paperwork in case management. Each item is docketed into BAN-CAP first, and then scanned. Images are named and stored on fixed disks by case year, document type, and case/document number using commonly-available file management software. Images and files are available for printing, personal working copies, or transfer via electronic mail (e-mail).

3. *Chambers-Based Experiments*

In addition to the experiments described above, some individual judges in the same or other courts are conducting limited experiments related to ECF. The availability of commercial services that provide e-mail and Internet access has facilitated electronic transmissions between attorneys and judges' chambers. These chambers-based experiments include transmission by e-mail of proposed orders, as well as transmission of notices from chambers to attorneys.

C. **The Road From Here: An Action Plan**

The ECF initiative is likely to be most successful if its scope is well-defined and the development of ECF capabilities proceeds according to a carefully articulated plan of action. This section identifies the fundamental goal of ECF development, a strategy for achieving that goal, and the mechanism for moving forward in the short term.

1. *Guiding ECF Development*

The Goal: The federal courts should develop and implement electronic case file systems to achieve totally integrated electronic management of litigation-related information.

The Strategies: The judiciary should develop ECF through a nationally coordinated and directed process that addresses the current and future information needs of both the individual courts and the judiciary as a whole. Development should therefore proceed in accordance with the following principles:

Leadership and Participation. Development and implementation of ECF should occur through a partnership involving all levels and elements of the judicial branch.⁶ The process should be supervised nationally by the Judicial Conference and its committees within their respective areas of responsibility, and it should receive support from the Administrative Office

⁶ Although the primary focus in this paper is on the courts of appeals, district courts, and bankruptcy courts, efforts to develop ECF systems should include the Court of International Trade, the Court of Federal Claims, and any other special courts in the judicial branch.

and the Federal Judicial Center. All interested parties—including the private bar and government agencies—should be consulted and involved in the design and evaluation of ECF systems to assure that the interests of all users of case file information are appropriately satisfied.

Related Activities. Pursuit of the ECF initiative should integrate all existing and future projects or programs intended to modernize, enhance, or restructure court information-handling systems and procedures related to case files.

Life-Cycle Management Process. The judiciary’s established process for managing national automation projects should be followed to assure that user needs and business justification are defined, functional requirements are established, alternatives are analyzed, and technological solutions are fully tested, integrated, and installed with adequate support and education. To aid in that process, courts and other judicial branch entities should be encouraged to share information on ECF projects through a central clearinghouse.

Nature of Development. Within the next three to five years, the process of ECF development should produce a model ECF system with core capabilities that would be centrally funded and supported, and made available to all interested courts for possible implementation. The model system should provide capabilities that enable maximum space and manpower efficiencies for courts who choose to fully utilize the system. The approved architecture should permit courts sufficient “modular” flexibility to enable them to meet immediate needs with ECF components that can be “built upon” or enhanced to provide increased functionality and meet local needs as circumstances warrant and technological advances permit. To that end, ECF should be designed to use “off-the-shelf” applications wherever feasible, recognizing that new solutions may have to be developed if capabilities required by the courts are not addressed adequately by any commercial product. Courts should be free to implement their own ECF systems so long as they meet appropriate national standards with regard to the technology employed and data included in such systems.⁷

Policy Questions. Policy questions arising from ECF studies and experiments (see Part IV *infra*) should be examined and resolved as expeditiously as possible through the judiciary’s normal decision-making processes, including coordinated action by the Judicial Conference and its committees.

Experimentation. Several pilot projects and prototype systems should be continued or immediately initiated to refine the courts’ functional requirements for ECF, identify technical alter-

⁷ Standard formats and document nomenclature will play a critical role in the submission and exchange of documents to, from, and among courts. Early standardization would improve the direction given to programming staff working on ECF pilot projects, as well as maximize the transportability of ECF applications across the court community.

natives, test working assumptions, and resolve issues. Experimentation should occur in all critical areas, with pilots testing both a “full” ECF system (i.e., capable of including all cases in a particular court) and “limited” systems for specific types of cases (e.g., prisoner cases, criminal cases, civil cases, bankruptcy cases, administrative cases). Testing, moreover, should extend to all court levels (trial and appellate) in the judiciary.

Imaging vis-a-vis Electronic Filing. Document imaging experiments can be pursued, in combination with other ECF approaches, to provide immediate benefits to courts and allow judges and court staff to become familiar with an electronic case file environment. In the short term, at least, imaging is likely to be an essential part of more comprehensive ECF systems, allowing courts to include in electronic files those documents that cannot feasibly be captured electronically at the source. At the same time, however, efforts to develop and facilitate EDI and other methods for directly transmitting and receiving case file documents in electronic form should be encouraged.

Business Case. Information on pilot projects and prototypes should be collected to allow for careful evaluation of potential costs and benefits, and to document the “business case” for shifting from electronic to paper case files.

Funding. Central funding should be provided in FY 1997 and beyond for coordinated ECF development and experimentation. Ultimately, only the core ECF applications included in the model system should receive central funding and support.

2. Making Progress

Coordination of Effort. The Committee on Automation and Technology, working with other Judicial Conference committees⁸ and through the Administrative Office and designated advisory groups of judges and court staff, should coordinate the development and implementation of ECF systems, including:

- identification of functional requirements
- development and/or identification of possible hardware and software solutions
- collection of data on locally developed solutions
- promotion of additional experiments, as required

⁸ The Standing and Advisory Rules Committees and the Court Administration and Case Management, Criminal Law, Bankruptcy Administration, and Magistrate Judges Committees all have substantial responsibility for policy development concerning litigation procedures and information flow. Those committees, and perhaps others, must participate in defining requirements and developing policy recommendations to the Conference.

- analysis of prototypes, pilots, and other experiments
- development of national technical and data standards to assure accessibility of case file information and compliance with statistical and other reporting requirements.

Court Activities. Courts interested in early implementation of ECF capabilities should proceed within the framework of the national effort by adhering to prescribed interim standards, sharing technical information, and otherwise cooperating with national evaluation and data-collection efforts.

Schedule. As stated above, a centrally funded and supported model ECF system with core capabilities should be available within the next three to five years. By the end of 1997, it should be possible to define the basic functional requirements for ECF based on information from ECF experiments as well as ongoing case management process and system modernization efforts, and to evaluate the existing alternative approaches to ECF. Following that, a model system could be designed or obtained and then made available within a number of months, or within a few years, depending upon the acquisition method chosen. Although the extent to which national standards are appropriate cannot be assessed fully until the judiciary has explored a range of alternative technological solutions and approaches, interim standards should be approved by the Judicial Conference to ensure that the basic integrity of court records is maintained in local court experiments (see Part V *infra*). A follow-on report (see above) can discuss the progress made during this time, establish a longer-term schedule for ECF development, and provide additional policy guidance and practical information for the courts.

II. Electronic Case Files: A Vision of Future Possibilities

The following presentation outlines a hypothetical judicial proceeding—not limited to any particular case type—and describes how electronic case file technology might be used at various stages to facilitate the creation, management, and use of litigation records. These scenarios merely illustrate the *potential* of electronic files. The actual details of any system that might be developed will depend on further policy and technical analysis.

STEP 1—DOCUMENT PREPARATION AND FILING

Alternative A: “Technologically-capable” private filer

An attorney or pro se litigant would prepare a text document for the court (such as a complaint, motion, brief, or proposed findings) on a word processor, as usual. A copy of the document, together with a “cover page” containing certain required identification, administrative, and case management information, would be sent to the court electronically in accordance with the judiciary’s technological standards. Attached documents—often not originating with the filer—would also be sent electronically, perhaps with the aid of scanning technology. Signature requirements and court fees would be satisfied electronically in accordance with revised federal and local rules.

Alternative B: “Non-technologically capable” filer

Many pro se litigants and some attorneys do not presently have the technological capacity to generate and transmit documents to the court. Accordingly, they could continue to file paper documents. The documents would be imaged or otherwise scanned into the court’s computers by court staff. Bar associations, public interest groups, and others (e.g., copy services) can be expected to facilitate electronic filing by all attorneys and many pro se litigants by assisting with transmission of documents to the court in the prescribed electronic form.

Alternative C: Court units and government agencies

Reports and other documents prepared for the court by the various subordinate offices of the court, such as pretrial services agencies, probation offices, clerks’ offices, and staff attorneys would be generated electronically. They could be added to the case files or kept in internal or confidential court files, as may be appropriate. Documents prepared by non-court government agencies and affiliates, including the U.S. Marshal, U.S. Attorney, and Federal Public Defender, law enforcement and administrative agencies, and bankruptcy trustees would be generated and filed electronically. Official records transferred from other federal courts (appellate, district, and bankruptcy), and from many state courts and federal administrative agencies could be filed with the court in electronic form.

STEP 2—SERVICE

A technologically-capable filer would effect service of a document on similarly capable parties by electronic means, and certificates of service would be generated and filed electronically. Other parties would make, receive, and certify service by traditional methods.

STEP 3—RECEIPT OF THE DOCUMENT IN THE COURT

The document would be received in a computer designated by the court. The computer would verify the document, log it in, “file” it, note the time of filing, “docket” it in accordance with the information provided by the attorney in the cover sheet and the caption, link it to other docket and file information in the court’s databases (including information on consolidated or related cases), and return a certificate of receipt to the attorney.

STEP 4—CIRCULATION OF THE DOCUMENT

The document and attachments would be sent to appropriate computer databases controlled by the court. The electronic record would be the official record, and the case file would be maintained electronically by a computer under the court’s control. If the document opens a case, the court’s case-opening, case-assignment, attorney-admission, and statistical systems would be interfaced electronically. The court financial systems would be interfaced regarding any filing fees or other financial requirements. In addition to participating attorneys, other appropriate non-judiciary offices—for example, the U.S. Marshal and the U.S. Trustee—would be notified electronically of the opening of new cases, the filing of pertinent documents, and the occurrence of pertinent events.

STEP 5—QUALITY CONTROL

Although a document received from outside the court would, at the outset, be filed, “docketed,” and added to the appropriate database(s) by electronic means (as described in Step 4), the version received by the court’s computer would be placed in a separate “receipt” directory or otherwise clearly tagged with an appropriate designation so that all who view the document would know that it is subject to quality control measures by the clerk’s office and possible corrective court action. The clerk’s office would correct any erroneous entries, and the attorney or other filer would be notified of any defects requiring correction or supplementing of the papers. After the appropriate corrections were made, the document would be moved to the regular case file directory or any temporary tag would be removed.

Alternatively, quality control by the court could occur before the filed document is circulated to the court’s database(s). This procedure, however, would produce some delay in posting documents to the system and making them accessible to all users.

STEP 6—ACCESS TO RECORDS

For both current and closed cases, the docket sheet and filed documents would be linked electronically and be immediately and simultaneously accessible to judges, court employees, and the public through the court’s computer. Judges, for example, could have electronic access to all court files (including their private chambers files and notes) from their homes or while on travel.

STEP 7—INFORMATION AND DOCUMENTS FOR CHAMBERS AND COURT OFFICES

Judges and other court staff would be notified of the filing of all pertinent documents in cases assigned to them, and would be provided with appropriate reports and tickler messages. Printed copies of any dockets and documents could be produced either by the clerk’s office (and sent to chambers or courtroom) or by the judges and staff themselves, according to their individual preferences. In addition, selected portions of the docket and other file documents could be copied or downloaded to separate files, enabling individual judges and chambers staff to specify the files, parts of files, docket entries, or documents they wish to use in chambers and in the courtroom.

STEP 8—COURT ACTIONS

Written orders, opinions, judgments, sentences, proposed findings, notices, etc., would be produced electronically in chambers or other court offices and entered through a control point into the court's computers. These documents would be linked with earlier documents and docket entries. Where appropriate, the court's document would generate a new docket entry, and an electronic (or paper, if necessary) copy of the document or notice of its filing would be sent to all interested parties, including other courts and—if requested—to other judges and court staff who have an interest in the case. A certificate of service would be prepared and docketed electronically and included in the electronic file.

STEP 9—DISCOVERY MATERIALS

Discovery materials and other litigation-related documents—such as correspondence, indices, and records—would normally be generated or collected by attorneys in an electronic format that facilitated eventual filing with the court, if needed in connection with a motion or the introduction of evidence.

STEP 10—CONFIDENTIAL DOCUMENTS

Sealed records, ex parte documents, private notes of judges and court staff, internal court memoranda, and other items that require confidentiality, would be maintained in a secure electronic environment and linked to the file electronically under security procedures that restricted access to authorized users.

STEP 11—TRIAL AND OTHER EVIDENTIARY MATERIALS

According to the judges' preferences, the lists of trial witnesses and trial exhibits could be approved before trial. The admissible evidence (and—if the court desires—all proffered evidence) would be pre-marked and compiled in electronic format for use at trial. Various types of evidence—such as documents, photographs, charts, videos, and physical evidence—might be available in a variety of formats, some of which could be accommodated electronically. At the trial, the attorneys and the judge could retrieve electronic records and exhibits instantaneously. Records and exhibits could also be displayed readily on television screens or other devices in the courtroom. Transcripts would be prepared electronically or converted to electronic format. They would be filed as part of the official electronic case record.

STEP 12—APPEAL

A litigant would file a notice of appeal—or an objection to a report and recommendations by a magistrate judge or bankruptcy judge—with the clerk of the original trial court, using the same method litigants use to file other documents with the court. The appellate court would be notified immediately of the filing by electronic means. In certain agency cases, a petition for review would be filed directly in the court of appeals, with service on the agency and other respondents. Since the file would be maintained electronically in the trial court, the clerk of the trial court would certify the record and transmit it or otherwise make it available electronically to the appellate court. The trial court file (including all private files and notes) would remain with the trial court, and the appellate record identified by the clerk of the trial court would become part of the appellate court record. The appellate record would then be supplemented by other documents filed with, and generated in, the court of appeals.

III. The Electronic Case File: Some Working Assumptions

The judiciary will need to address a number of legal, policy, and operational issues as it moves to reduce reliance on paper as the principal medium for conducting litigation. Although it may be too early to reach final conclusions on some of the technical and legal issues, this section presents a series of assumptions concerning the potential benefits of ECF, as well as the likely functional characteristics of the electronic case file.

A. Potential Benefits of ECF

For judges and court staff the benefits of ECF could include:

- *Immediate access to case documents* in courtroom.
- *Portable, simultaneous, and 24-hour access to case files*, both inside and outside the courthouse, for judges and other court employees (including probation and pretrial services officers and the U.S. Trustee).
- *Reduced file-handling, maintenance, and redundant copying*.
- *Reduced staff time* for tasks including data entry, pulling and reshelving files, and making copies of documents for the public.
- *Simplified archiving and file retrieval*. The physical shuffling and movement associated with paper documents would be replaced by the computer-controlled movement of electronic documents from the primary storage device to an archive storage device. Since electronic media requires less physical space than paper, the court might be able to maintain its own copy of archived information, ameliorating the need to rely on the record center to retrieve documents or case files.
- *Potential to make staff available for other purposes, or to reduce total staffing costs*. Although no court has conducted detailed analyses focusing specifically on staff reduction, some preliminary data allow for conclusions about cost savings. For example, a time and task measurement study conducted by the Clerk of the Bankruptcy Court of the Western District of Oklahoma showed that dollar savings from FY 1994 through FY 1996 of the reduced time spent in searching, retrieving, refileing, and similar tasks by case administrators represent about two average staff salary-years (even when including scanning hardware costs). Beginning the current fiscal year, the clerk's office in the District Court for the Northern District of Ohio reduced staff by two positions and terminated a temporary contract for part-time help—all positions previously de-

voted to filing paper documents in the maritime asbestos cases, now being filed electronically.

- *Secured file integrity and reduction or elimination of misfiled papers*, due to automated editing and validity checks.
- *Reduced time for dictation and retyping*, because portions of transcripts, pleadings, exhibits, or briefs could be copied electronically and inserted directly into documents prepared by the court.
- *Simple and quick transfer of case files among courts, chambers, and court units*.
- *Reduced need for handling duplicate paper copies filed by attorneys*.
- *Enhanced quality control* for both docket entries and file content.
- *Reduced need to assist with public access to case files*.
- *Enhanced ability to share, annotate, and edit documents through e-mail*.
- *Ability to perform full text searches within individual documents and across an entire file system*.
- *Potential savings in court office space* derived from decreased need to warehouse hardcopy files.
- *Reduced or eliminated need for duplicate copies of files*.
- *Established base of local experience* for future electronic case file design, technology, and procedural alternatives.

For litigants and the public, the benefits of ECF could include:

- *Concurrent and immediate access to the same case file*. Once a document is filed it would be available simultaneously to multiple viewers. Whether viewed from a computer terminal at the court (or through remote access from a lawyer's desk), filed documents would be available almost instantaneously.
- *Remote viewing of documents through modem connections*. Attorneys would not need to leave their offices to find a document in a file.

- *Reduced need for filing of duplicate paper copies by attorneys.*
- *Increased public access to case files, including remote access.*
- *Improved availability of file information, with fewer lost or missing files or pleadings.*
- *Automated copying of documents, either at remote locations or at the court.*
- *Self-generation of public reports, as, for example, for creditors and trustees.*
- *A replacement medium for archival storage, supplanting microfilm.*
- *Potential to view archived files without waiting time for retrieval and reading of microfilm.*
- *Easier filing and reduced costs, plus more flexibility (i.e., filing and other access can occur from remote locations at any hour of the day).*

B. Functional Characteristics

This section posits a series of assumptions concerning the basic features that courts and court users would find necessary or useful in an electronic case file system.

1. *In principle, all federal courts should use electronic case file systems that have a common core and are functionally equivalent, but some variations will be necessary to accommodate local needs.*

Ideally, the electronic case file systems at all levels of the federal judiciary would include the same basic types of information and provide comparable service for judges, court staff, attorneys, and other users. This would not only ensure that the benefits of an electronic system are felt throughout the country, but also facilitate the process of litigation from one level to another through the courts. Commonality of systems is also a very important interest for agencies and attorneys who practice in multiple jurisdictions.

As a practical matter, however, complete uniformity is neither likely nor necessary. Some categories of litigation (e.g., prisoner and other pro se cases), certain kinds of file items (e.g., es-

pecially lengthy or nonstandard documents or exhibits),⁹ or circumstances peculiar to particular courts, might require alternative technological solutions. Those solutions might incorporate imaging of paper filings rather than original receipt of filings electronically, differing time frames for implementation, or even exclusion of certain documents from the electronic file.

2. *An electronic case file should comprise all written documents and other items presently included in paper case files, and it could also provide direct access to other records relating to litigation.*

An electronic case file potentially would include all items of record filed or generated in a civil, criminal, appellate, bankruptcy, or other judicial proceeding.¹⁰ Docket entries and documents would be linked by “hypertext” or similar connections permitting a user to go directly from one file item to another. With “search engine” capability, any text in the docket or a file could be searched to quickly and completely locate specific items. In addition, an electronic case file could be designed to permit access to internal court documents (e.g., judges’ private notes, law clerk/staff attorney memoranda) and other items that are not included in the official case file (e.g., arrest and search warrants, presentencing reports), but pertain to particular cases and are regularly used by court personnel. These internal documents and other items would not be included in the official case file, and would be secure from unauthorized access.

3. *An electronic case file should interface with electronic case files maintained in other federal courts, and with other automated official records (e.g., case management, financial, and statistical systems) that contain litigation-related information.*

An electronic record system could be designed to link with other electronic records or databases, providing users with access to information collected and maintained in different locations and organizations. Given the degree of connectivity that present technology already permits between differing systems and products, it would be sensible to maintain an expansive view of the possibilities.

For example, an electronic case file system designed to take advantage of that capability would allow judges, court employees, litigants, attorneys, and other users to retrieve, through one access point, all court-held information involving a particular case, regardless of whether that in-

⁹ Appendix D describes the major elements of appellate, bankruptcy, district court (civil), and district court (criminal) case files, as well as case-related documents produced or maintained in probation office and pretrial services agency files. These charts include information on factors that may bear on how particular file documents are handled in an ECF system.

¹⁰ Certain items might not be included in the electronic file if capture in digitized form proves too difficult or not cost-effective (see previous note and accompanying text).

formation is: (1) generated in bankruptcy, district, or appellate court proceedings; (2) maintained in a court's separate system of records, such as the court's ICMS or other case-management system, the court's financial database, the court reporting and other electronic courtroom systems; (3) generated and maintained in separate systems maintained by other official participants or court units such as probation and pretrial services offices, U.S. Trustees and bankruptcy administrators; or (4) accessible electronic databases outside the courts (e.g., Internet "Web" sites and computer-assisted legal research (CALR) services).

4. *Case file items should be captured in electronic form at the earliest practicable time.*

To secure the greatest benefits from these systems, documents and other filings should generally be obtained by the court in electronic form at the outset rather than being filed initially in paper form. To maximize electronic filings, attorneys and other potential filers could be required or encouraged to use the appropriate electronic format when creating and maintaining documents (e.g., discovery requests and responses, litigation-related correspondence) that subsequently might be used as a trial exhibit or attached to a motion or other filing.

5. *An electronic case file system that includes filing of pleadings and other documents in electronic form must also have the ability to capture docketing information for the court, effect notice (and perhaps service) on the parties, verify timeliness of filing, and confirm receipt by the court.*

When litigants are permitted to file case documents directly in electronic form, the court can gain additional benefit from the system by requiring the filer, at the same time, to provide the court with docketing information. At the court's option, the information provided by litigants might be automatically entered directly into the docket subject to internal review, or held in a pending status for use by the clerk's office in making the official docket entries. The system could also be designed to allow both the court and litigants to effect notice or service of pleadings, motions, orders, and other documents on all parties by the same or similar electronic means. Finally, the system should allow the court to verify the timeliness of a filing and allow parties to confirm the receipt and docketing of their filings.

6. *Electronic case file systems should be designed to maintain the integrity of the court's dockets and ensure effective court control of the public record.*

Control of, responsibility for, and possession of the court's dockets and files are central functions of a clerk's office.¹¹ Whether in paper or electronic form, the case file is a public record that must remain under the court's effective control.¹² Although these functions would necessarily evolve in the context of an electronic filing system, ensuring the accuracy of the court's dockets and maintaining effective control over its files would remain key roles of the clerk.

7. *An electronic case file system should be designed to promote decreased reliance on paper copies, but should also continue to provide access to records in paper form.*

An ECF system should be designed to encourage and facilitate working with electronic documents on a computer screen rather than in paper form. Accordingly, attention should be given to making electronic displays easy to read and use, accommodating user preferences as to the format and location in which case files can be read, and addressing other issues involving the ergonomics of ECF equipment design and use.

It is likely that paper will remain for many users the preferred medium in which to receive and handle at least some file information. With current technology, the contents of electronic files would not be accessible except at a desktop or through a portable computer—requiring users to change significantly how and where they work. For this reason, electronic case file systems should be capable of printing paper copies of documents on demand, and the court could establish procedures under which paper copies of documents would be produced routinely in defined limited circumstances or for certain users. Reliable and high-speed methods for retrieving and printing documents must be made available to all court offices.

¹¹ These duties are set forth by statute or by federal rules. For courts of appeals, this responsibility is set forth in Fed. R. App. P. 45(b). For district courts, Fed. R. Civ. P. 79(a) and 28 U.S.C. § 457 apply. In bankruptcy courts 28 U.S.C. § 156(e) and Fed. R. Bankr. P. 5003(a) address duties of the clerk in this regard.

¹² Although the operative statutes and rules (see preceding note) speak in terms of the clerk of court “keeping” the dockets and official court records, this would not seem to preclude an arrangement under which a private company maintains the court's electronic case files in a computer not located at the courthouse or another judicial branch site. By contractual provisions and other practical measures (e.g., obtaining software codes and copies of the electronic files), the court can ensure that it retains effective control of the ECF records.

8. *Electronic case files should be designed to accommodate local practices while satisfying the judiciary's more general informational needs.*

Although the immediate users of electronic case files would be the individual courts and their users, the judiciary as a whole has a strong interest in facilitating communication among the courts and ensuring consistent, accurate reporting of statistical information. National standards that define minimum format requirements and data capabilities would ensure that both local and national needs are met. Local rules and practices on document naming (e.g., those requiring certain motions to be styled “applications”) and other format criteria would be accommodated in electronic case files to the extent that local practices are consistent with nationally uniform rules of practice and procedure, and with the ability of courts to exchange case file information in electronic form.

9. *Electronic case file systems should conform to basic requirements and standards in automation architecture and design that emphasize ease of access, adaptability to change, reliability, and compatibility with alternative technological solutions and functional needs.*

Although courts should be encouraged to implement electronic case files to meet their specific needs, neither local nor national needs for case file information and statistics can be met unless electronic file systems are designed to share information with each other, and to remain flexible in the face of evolving technology. The judiciary's Information Systems Architecture (ISA) provides a framework of information technology strategies, standards, and guidelines, and defines the infrastructure components that enable the judiciary to design, develop, and operate cost-effective and flexible automated solutions. To ensure the requisite compatibility and flexibility, all hardware and software configurations used in electronic case files should conform to the core requirements of the ISA and, to the extent necessary, meet other national technical standards. Because the information stored in ECF systems is critical to the courts' mission, all ECF-related hardware and software must be highly reliable.

The precise balance between uniform national standards and local option will be difficult to define. At a minimum, it might be appropriate to require that all electronic case file systems provide access through a single network (e.g., the Internet or functional equivalent) and set of network tools (e.g., a particular Web browser and file format). This would ensure sufficient functional similarity across the United States that all users (court personnel, attorneys, members of the public) wherever located might obtain information from any court system without the need for extensive training. On the latter point, an analogy might be drawn to the relatively standardized screen menus and functionality found in the many different kinds of “Windows-based” computer software.

10. Electronic case file systems should provide enhanced user access to case file information.

Regardless of where the data are stored, judges and court staff should have the ability to retrieve electronic case file information immediately (i.e., at any hour and on a real-time basis), simultaneously (i.e., to multiple users), without cost to the court (even if access charges are levied to outside users), and from remote locations (i.e., by network or dial-up mechanism) as well as in the courthouse. The contents of electronic case files should also be accessible to litigating parties, their attorneys, and members of the public under terms and conditions at least as favorable as those governing access to paper files: that is to say, an item in an electronic case file would be accessible, at least in read-only form, to anyone who has access to a paper version under current practice. To the extent feasible and cost-effective, an electronic case file system would afford easier, more immediate, and less costly access to non-court users than is currently possible with paper files. In allocating the costs of ECF technology, therefore, both the potential for improved services as well as the impact of user fees on access to the courts should be weighed.

11. Innovative solutions should be developed to accommodate pro se and other litigants who may not have access to computers.

Creative electronic solutions should be pursued to facilitate electronic filing by all litigants over the long term. Options might include pilot projects to allow electronic filing of prisoner petitions on court-developed forms, public terminals that permit document preparation and electronic filing at the courthouse, or document imaging systems that integrate non-electronic pleadings into an ECF system.

12. Electronic case file systems should include appropriate security measures.

An electronic case file system must include sufficient security measures to preserve the confidentiality of sealed items and other restricted-access materials (e.g., the personal files of court personnel and other items circulated only within the court or to certain parties), to protect data from destruction or corruption by user error, computer “viruses,” outside “hackers,” equipment failure, and natural or man-made disasters, to ensure against fraudulent or unauthorized filings, and to permit the court’s deletion of records in appropriate circumstances. It should also permit parties and attorneys to employ reasonable measures (e.g., data encryption) to prevent interception of confidential information during electronic transmission to and from the court.

IV. Topics for Further Study

The federal courts will address many issues as they change from paper-based to electronic case files. This discussion does not purport to be an exhaustive treatment of all possible questions that may arise. Rather, it is intended to raise key questions, present available information, and suggest areas for further inquiry.

For many of these issues, resolution will involve policy decisions affecting the judiciary as a whole and, in some instances, may require legislative changes or cooperative action by the executive branch, the bar, or other organizations representing the interests of court users. In addition to the Committee on Automation and Technology, other committees of the Judicial Conference have begun, or will soon begin, examining the impact of advances in information technology on how the courts will conduct their business as they enter the next century. The Committee on Rules of Practice and Procedure, for example, has established an automation subcommittee to consider possible rules changes, and the Committee on Court Administration and Case Management has identified a series of administrative and legal issues that the courts will need to consider when implementing the revised federal rules authorizing electronic filing of litigation documents.¹³ Individual courts will also confront a number of policy, technical, and other issues as they develop new and revised local rules, internal operating procedures, and the work processes needed to effectuate the shift from paper to electronic case files and the filing of court papers electronically.

Some of these issues will be resolved simply by making choices based on the judiciary's existing policy positions and core values. The answers to other questions, however, will be identified only through actual experience—gained in experimentation with, and analysis of, new technologies and practices. The judiciary, as a whole and in individual courts, should therefore take advantage of the existing and future pilot projects and prototypes as “laboratories” in which to test alternative approaches to the various issues.

A. Authentication, Security and Preservation of the Litigation Record

1. Document Authentication

Signatures generally serve an authentication function, attesting to the validity of the document and verifying that the document is attributable to the signer. This ensures that there has been no tampering with the document. Federal rules typically require a signature on documents

¹³ See Memorandum re Electronic Filing from Leonidas Ralph Mecham, Director of the Administrative Office of the United States Courts, to all Judges, United States Courts, and Clerks, United States Courts (Nov. 22, 1996) (Appendix A).

filed with the court.¹⁴ By local rule, some courts require that the signature be an “original.” Effective December 1, 1996, the federal rules allow courts to adopt local rules permitting papers to be filed, signed, and verified by electronic means.¹⁵ Electronic filings that comply with such local rules satisfy all the requirements for filing on paper, signature, or verification.

The judiciary will need to establish procedures to accommodate signatures on documents that are filed electronically. There are many different methods for capturing actual signatures in electronic form, none of which is widely adopted or a market leader at this time.¹⁶ Other verification options include use of passwords¹⁷ or “digital signature” technology.¹⁸ The signature and verification systems adopted by courts to accomplish electronic filing should take into consideration the characteristics of filers.¹⁹ The court would also need to establish procedures to accommodate documents requiring verification beyond a signature given under penalty of perjury.²⁰

Document authentication is closely associated with the issue of security, discussed *infra*. Whatever means a court chooses to adopt to satisfy the need for signatures should minimize the potential for interception or alteration of electronic communications.

¹⁴ See Fed. R. Civ. P. 11(a); Fed. R. Bankr. P. 9011(a). Under both rules, a signature establishes the signer’s responsibility for the document and also certifies his or her compliance with the three affirmative duties imposed by the rules. The signer is subject to sanctions for violation of Rule 11 or Rule 9011. There is no rule specifically requiring attorneys to sign documents filed in the courts of appeals.

¹⁵ See note 2 *supra*.

¹⁶ Some commercial products support the capture of manual signatures in electronic form using digitizers, essentially electronic drawing surfaces using a pen instead of a mouse. Software now exists which protects a signature produced via digitizer from being copied, transferred to another document, or altered.

¹⁷ For example, the commercial CLAD and WestFile systems and the electronic filing prototype in the Northern District of Ohio each employ a password procedure.

¹⁸ Digital signatures use encryption with a private key known only to the signer and a public key distributed to the receiver. Under recently proposed guidelines, a trusted third party would serve as the equivalent of an on-line notary, certifying that the signer of the document being transmitted holds the private key corresponding with the public key. Information Security Committee, Section of Science & Technology, American Bar Association, DIGITAL SIGNATURE GUIDELINES (1996).

¹⁹ A password system, for example, could be easily adaptable for use by the local bar and “frequent filers.” Consideration would need to be given to out-of-state counsel appearing pro hac vice or other attorneys who appear in federal court infrequently. Different procedures might need to be established for pro se filers and debtors in bankruptcy.

²⁰ See, e.g., Fed. R. Civ. P. 23.1 (requiring verification of a complaint by a shareholder in a derivative action on behalf of the corporation).

2. Security

Any system for managing electronic case files must provide security at least equal to that provided by the paper system.²¹ An electronic case file system must ensure that information and documents are protected from damage, tampering, loss, and destruction. Existing electronic case management and docketing systems generally provide access control features, such as passwords, telecommunications restrictions, and physical security of equipment, to reduce the risk of data loss or tampering. They rely on edit checks, quality assurance checks, and user analysis of reports and other outputs to limit and correct errors. Data backup requirements exist to aid in recovery in the event of data corruption or system failure. Similar features should be included in electronic case file systems.

Some security issues are unique in the electronic context. Information transmitted electronically over the Internet, by telephone lines, or similar means can be intercepted with ease between the sender and recipient, allowing the data to be stolen or altered en route.²² To address these security concerns, low-cost, sophisticated encryption packages have been developed to prevent unauthorized access and to preserve confidentiality, integrity, and authenticity of electronic communications.²³ The protection of documents transmitted electronically raises particular concerns in the legal community.²⁴

²¹ While the current paper case files are generally considered to be within the custody of the clerk, they are often checked out to chambers and other court staff, and made available to attorneys, parties and the public. Although steps are taken to protect files from error, damage, tampering, temporary loss, permanent loss, and destruction both inside and outside the fileroom, all those ill fates are possible. Some courts keep duplicate case files, one in chambers and one in the clerk's office. This is expensive, but it can provide backup if a loss occurs. Ultimately, attorneys could be asked to resubmit documents to rebuild lost or damaged case files.

²² Intercepting these communications, called "phreaking," has become a lucrative criminal enterprise, targeting credit card numbers and other financial or proprietary information. As a result, AT&T reported this year that 80% of American businesses use some sort of information security to protect communications. See Seeman, *Keys to Secret Drawers: The Clipper Chip and Key Escrow Encryption* (Univ. of Ore., Apr. 1995) (available on the Internet at www.stardot.com/~lukeseem/j202/).

²³ These encryption packages are extremely difficult to break, even raising concerns within the law enforcement community that criminal elements could use encryption to block the use of wiretapping in criminal investigations. See Office of Management and Budget, *Draft Paper - Enabling Privacy, Commerce, Security and Public Safety in the Global Information Infrastructure* (May 20, 1996) (controversial proposal to install a "clipper chip" in telephones, fax machines, and modems, allowing government access to encrypted information with warrants in criminal and national security investigations).

²⁴ Recently, the Iowa Board of Professional Conduct addressed the use of e-mail and Internet communications for lawyers transmitting client confidences and secrets. Citing the risk of disclosure through interception by third parties, the Board wrote:

[W]ith sensitive material to be transmitted on E-mail counsel must have written acknowledgment by client of the risk of violation of Disciplinary Rule 4-101 [*confidences or secrets may be revealed by a lawyer with the consent of the client affected, but only after a full disclosure to them*], which acknowledgment includes consent for communication thereof on the Internet or non-secure Intranet or

Computer systems also remain vulnerable to more traditional attempts to steal or destroy information. Breaking (“hacking”) into networks or computer systems to steal files and the intentional destruction of files and operating systems through computer “viruses” are a continuing threat. Electronic filing systems are also vulnerable to “denial-of-service” attacks in which an entity makes so many requests for service that other valid users can not gain timely access to the system. If a significant number of attempts are made to access the system at nearly the same time, legitimate users might be prevented from filing, and, if filing is accomplished on the same system containing the court’s database, court access to its own records might be affected.

3. Preservation of the Record

a. Parallel Systems

Courts establishing electronic case files will need to determine the extent to which they will continue maintaining paper case files (either alone or in parallel to electronic data) during a transition period or for the indefinite future. Imaging technology may prove particularly efficacious during the migration from paper to electronic case files, allowing a court that receives a combination of paper and electronic filings in a case to convert everything into an electronic format.

b. Backup Copies

Electronic backup capabilities, like those used in the case management/docketing systems, enable an electronic case file system to provide a greater level of protection against loss of information than can be provided by a paper system. Courts using electronic files will need to establish backup procedures and disaster recovery plans, and might consider additional “fault tolerant” storage that provides access to data during “down times” short of total disaster.

c. Archiving the Record

If a court implements a case file system in which the files or certain file items are maintained solely in electronic form, the court will have to comply with National Archives and Records Administration (NARA) and Judicial Conference requirements concerning the management of electronic records. Under the Federal Records Act (FRA),²⁵ which applies to all courts other than

other forms of proprietary networks, or it must be encrypted or protected by password/firewall or other generally accepted equivalent security system.

Formal Opinion 96-1 (Aug. 29, 1996).

²⁵ 44 U.S.C. chs. 21, 29, 31, 33 (1994). The FRA obligates agencies (including courts other than the Supreme Court) to "make and preserve records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the agency and designed to furnish the information

This paper was prepared by staff of the Administrative Office of the United States Courts, with substantial assistance from judges and court staff, to aid the deliberations of the Judicial Conference of the United States and its committees. The ideas expressed in this paper do not necessarily reflect the policies of the Conference or any committee thereof, any court of the United States, or the Administrative Office.

the Supreme Court, NARA is responsible for developing and issuing standards to improve management of records and provide for retention of those records that have continuing value.²⁶ The Judicial Conference is authorized to establish records management policies, consistent with the requirements of the FRA and NARA, for the United States courts of appeals, district courts, Court of International Trade, Court of Federal Claims, and other judicial branch entities.²⁷

Agencies are expected to retain any records that remain in active use but are permitted, under terms and conditions prescribed by NARA regulations, to transfer physical custody of inactive materials to one of 15 Federal Records Centers (FRC) for storage and future retrieval.²⁸ Records classified as "permanent" are to be transferred to NARA's custody while other records can be destroyed under schedules agreed-upon or prescribed schedules.²⁹

Although archiving requirements should not significantly affect a court's ability to operate an electronic file system during the course of litigation, NARA's restrictions on media and format for archival storage could present difficulties if pleadings, orders, and other filings that must be maintained as permanent records are created or maintained in any word processor (e.g., WordPerfect, MS Word, etc.), imaging (e.g., TIFF, JPEG), or other specialized format (e.g., Portable Document Format—or PDF—files).³⁰ None of these formats is currently acceptable to NARA, and, of them, only PDF appears likely to become acceptable.³¹ Before sending records to the ar-

necessary to protect the legal and financial rights of the Government and of persons directly affected by the agency's activities." *Id.* §§ 2901(14), 3101. "Records" are defined broadly to include "all books, papers, maps, photographs, machine readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of data in them." *Id.* § 3301.

²⁶ *Id.* §§ 2904, 2905; 36 C.F.R. Parts 1220-1238 (1995), *as amended* by 60 Fed. Reg. 44634, 44639-42 (Aug. 28, 1995).

²⁷ 28 U.S.C. § 457 (1994); *see* XIII GUIDE TO JUDICIARY POLICIES AND PROCEDURES ch. XVII (Nov. 6, 1995). These policies include a schedule for disposition of judicial records that requires permanent preservation of all appellate case files, several categories of civil, criminal, and bankruptcy case files, and specified portions of other case files or other records (e.g., dockets and judgment and order books).

²⁸ 36 C.F.R. §§ 1228.150-1228.164.

²⁹ 44 U.S.C. § 3303a.

³⁰ At present, NARA accepts transfer of electronic records for archival purposes only on prescribed open-reel or cartridge magnetic tape; the data must be written in non-formatted ASCII or EBCDIC characters that are readable without requiring specialized hardware or software. 36 C.F.R. § 1228.188(a)(2), (b).

³¹ With technology already making it possible to create and retrieve electronic documents that appear in print or on screen in formats indistinguishable from the paper originals, current NARA restrictions may change. The Department of Defense has already established a policy under which permanent records will be stored in PDF format, and other federal agencies may do likewise. In a recent rulemaking proposal, NARA suggested that records could be archived on CD-ROM, that records saved as ASCII text could include Standardized Generalized Markup Language (SGML) to pre-

chive, a court using an unacceptable format would be required to convert its case records to an acceptable archivable format such as: paper, standardized ASCII files (which would lose some formatting), or a micrographic format (e.g., microfiche). Or the court might attempt to maintain its own permanent files at the court location—but NARA might not find that approach acceptable.

As courts move ahead to develop electronic case file systems, it will be necessary to keep these archival requirements in mind whenever decisions are made on which format or formats to use in creating and storing case file items. For example, if the courts use digital signatures to ensure authenticity and integrity of electronic documents, the encryption keys would have to remain available either in the stored record or through other measures.

B. Litigation Procedures

Several procedural questions related to electronic case files will require further study. Amendments to the respective federal rules of procedure effective December 1, 1996,³² permit courts to establish local rules that allow documents to be filed, signed, or verified by electronic means. Since current rules and procedures are based on the implicit assumption that the “case file” consists of a unique or discrete set of paper documents, review and amendment of the relevant federal rules may be necessary to facilitate electronic filing. Among the issues that merit further study are:

- Service of process and service of pleadings in an electronic filing system
- Notice to the parties of court opinions, orders and other actions
- Timeliness of electronic filings and verification of receipt by the court
- Documents that are received in an incompatible format

1. Service of Process and Service of Pleadings

The amended federal rules permit electronic *filing*, but do not address the issue of service of documents in litigation. As an initial matter, a distinction should be made between service of initial pleadings (i.e., the complaint), and service of subsequent pleadings. Service of initial pleadings raises both due process and federal rules issues that warrant special consideration. Rule 4 of the Federal Rules of Civil Procedure, for example, specifies several acceptable methods of initial service that are designed to satisfy notice requirements as developed through case law, and that

serve formatting and, most importantly, that NARA would be willing to consult with agencies on possible transfer of other kinds of electronic records. 61 Fed. Reg. 39373 (July 29, 1996).

³² See note 2 *supra*.

are consistent with constitutional principles. In contrast with subsequent pleadings, more study may be necessary to devise appropriate procedures for electronic service of initial pleadings.

Once a party has notice of the initiation of a legal proceeding, however, the service of all subsequent pleadings by electronic means may be consistent with the spirit—though not the current letter—of the federal rules. Although the federal rules currently address only service by mail,³³ proposals to amend the rules to allow electronic service will be considered as the courts gain more experience with electronic filing.³⁴ In bankruptcy proceedings, the rules also permit the court to transmit notices of certain events electronically, provided that the entity to receive notice agrees to electronic delivery.³⁵

Agreement of the parties may be one way to facilitate electronic service, at least in the short term (i.e., during testing of possible methods of electronic filing). All pleadings could be transmitted among the litigants through electronic means separate from the court's filing system (i.e., through private e-mail). Notices of service could be included in each pleading filed electronically with the court. Conversely, parties might agree that electronic filing with the court also constitutes electronic service. Parties would either agree to check the electronic docket periodically to download newly filed pleadings, or parties would agree to notify each other (by e-mail, fax, telephone, etc.) when a new pleading has been filed.

A possible alternative to actual electronic service would be to require litigants in certain cases—either through national or local rules—periodically to check the electronic case file system for newly filed documents. Under this approach, the federal or local rules might specify that filing also constitutes service of pleadings in any case in which documents are filed electronically. Litigants would essentially be required to check the electronic case file system (or, perhaps, their e-mail) the same way the current rules presume that litigants check their “paper” mail. This approach might be aided if parties were given simultaneous notice (by fax or e-mail) of any new filings, thus prompting them to check the court's electronic case file for the additional materials.

³³ See Fed. R. Civ. P. 5; Fed. R. App. P. 25; and Fed. R. Bankr. P. 7005.

³⁴ See Draft Minutes of the Civil Rules Advisory Committee (Apr. 20, 1995), *reprinted in* House Doc. 104-201, 104th Cong, 2d Sess. (1996) at 10, noting such proposals and stating that “it seems better to await developing experience with electronic filing before pursuing the potentially more difficult problems that may surround electronic service.”

³⁵ See Fed. R. Bankr. P. 9036.

2. *Notice to the Parties of Court Opinions, Orders and Other Actions*

In addition to electronic service of pleadings, an electronic case file system should also provide for court notices, orders, and opinions to be transmitted to litigants by electronic means. As with the issue of service, however, the recent amendments to the federal rules do not specifically provide for electronic communication by the court with litigants.³⁶ The federal rules *require* clerks to notify litigants *by mail* of all court orders or judgments.³⁷ For these reasons, additional rule changes may be necessary.

Because court orders, opinions, and notices are now generally created through word processing or case management applications,³⁸ the *production* of such documents would be largely unchanged. Although electronic *dissemination* of court documents may require alterations to current work patterns, courts are already conducting successful experiments in this area. The Bankruptcy Rules provide for electronic transmission of notices from the court to parties upon request,³⁹ and the appellate courts use Internet and electronic bulletin boards for passive dissemination of court opinions.

3. *Determining Timeliness of Electronic Filings and Verifying Receipt by the Court*

It is technically feasible to provide essentially real-time access to electronically filed documents, both within the court and, potentially, to the public as well. Electronic filings could be positively acknowledged, and these acknowledgments would provide immediate feedback that a filing was successfully received.

As outlined in Part II of this paper (envisioning a “full” ECF system), when a pleading is sent to the court several electronic records would be routinely created, amounting to a complete audit trail of the pleading that could later be consulted to verify timeliness. The filing would be logged through whatever electronic system a litigant uses to transmit the document to the court, and subsequently would also be logged by the court’s computer system. Such logs would presumably indicate enough of the characteristics of the document sent in order to later verify both the fact of transmission to the court, as well as the content of the transmission. Moreover, the same audit trail would likely assist the litigants in verifying that their pleadings had been *received*

³⁶ See Fed. R. Civ. P. 58 (Entry of Judgment); Fed. R. App. P. 36 (Entry of Judgment); and Fed. R. Bankr. P. 9021 (Entry of Judgment).

³⁷ See Fed. R. Civ. P. 77(d); Fed. R. App. P. 45(c); and Fed. R. Bankr. P. 9022.

³⁸ All ICMS applications have a forms production feature, enabling the creation of standard orders as a part of the case management process. Order are usually generated by chambers staff in word processing format, then provided to the clerk’s office staff for docketing and noticing.

³⁹ See Fed. R. Bankr. P. 9036.

by the court; and litigants could presumably verify that a document had been *filed* by consulting the electronic docket.⁴⁰

4. *Documents Received in an Incompatible Format*

Despite advances in technology, it is likely that a small number of pleadings filed electronically will not be “readable” by the court. Currently, court clerks are not permitted to reject a filing because it is not in the proper format.⁴¹ In that situation, the clerk usually informs the party about non-compliance with the rules and, assuming the party is willing to correct the error, determines a date by which the corrected document must be submitted.⁴²

An unreadable document filed electronically, however, may raise additional questions for the clerk and the court. As a threshold matter, an unreadable document really cannot be “filed” since there is no way to verify its contents. Likewise, even if the document is later “translated” in some way to make it readable by the court, questions of timeliness may arise if, for example, the initial unreadable filing arrived at or near an official filing deadline. Questions of adequacy of service could also arise if filing and service is effected at the same time and the document received by the parties is also unreadable.

Study is required to estimate how often documents are likely to arrive at the court in an incompatible electronic file format. Technical standards (discussed elsewhere in this paper) should mitigate this potential problem. It also may be possible for parties to “correct” a pleading that initially arrives in an incompatible format—in a manner similar to what occurs now with paper pleadings. In that regard, the electronic “audit trail” that is created through creation and transmission of an electronic document will assist the court and the litigants in verifying the content and receipt of documents.

C. Access to Electronic Case Files

The use of an electronic filing system may permit broader, easier and more secure access to court files for all user groups than was ever before possible. Nonetheless, further work should proceed to explore the following access-related questions.

⁴⁰ The Postal Service is reportedly developing an “electronic postmark” that will verify the time and date of e-mail transmissions. See United States Postal Service, *USPS to Offer a Variety of Electronic Services*, MEMO TO MAILERS, vol. 31, no. 11 (Nov. 1996).

⁴¹ Federal Rule of Civil Procedure 5(e), Federal Rule of Appellate Procedure 25(a), and Bankruptcy Rule 5005 and 7005 each provide that the Clerk may not refuse to accept any pleading presented for filing solely because it is not presented in proper form as required by the national or local rules.

⁴² See, e.g., Fed. R. App. P. 25(a) (advisory committee note on 1994 amendment).

1. Defining "Access" for the ECF Environment

"Access" means the ability to use a court's electronic case files. Case files traditionally have been open for public inspection at the clerk's office in every courthouse. With respect to courts of appeals and district courts, this has been more a matter of custom and the philosophy that a case file is a public record, although 28 U.S.C. § 753(b) provides a statutory right of inspection to the public for transcripts and court reporter's notes.⁴³ With respect to bankruptcy courts, however, there is a statutory right of public inspection without charge provided in section 107 of the Bankruptcy Code.⁴⁴ Access to electronic files may be far broader, and available both at the courthouse and at remote sites (ranging from a law office, to the public library, to an individual's home), virtually without limit as to place or time of day.

2. Need for Fair Access by All Users

Courts will need to ensure fair access to their electronic files. Several issues should be evaluated in order to promote such access, including:

- Whether to charge for remote access, at least for filing purposes.⁴⁵
- Potential need for increased number of public access terminals. Although the clerk can provide to members of the public as many paper case files as are requested at one time, subject only to prior "checking out" of a file by a judge or other person (and the file room staff's ability to keep up with retrieval requests), a limited number of electronic file readers—equivalent to the number of public terminals at the clerk's office—could create a substantial "bottleneck" that inhibits public on-site access to the entire electronic case file system.
- Potential need for time limits on public access terminals. Users who occupy a terminal (like users who keep an individual case file for an inordinate length of time) will limit other users' access to the case file system. For this reason, a court may need to

⁴³ See *Nixon v. Warner Communications*, 435 U.S. 589, 597 (1978) (no charge for examining a case file at a clerk's office).

⁴⁴ 11 U.S.C. § 107(a) (1994).

⁴⁵ Congress has already determined that fees should be charged for "read-only" remote electronic public access to court information. See The Judiciary Appropriations Act, 1991, Pub. L. No. 101-515, § 404, 104 Stat. 2101, 2129, 2132-33 (1990); The Judiciary Appropriations Act, 1992, Pub. L. No. 102-140, § 303, 105 Stat. 782, 807, 810 (1991); Judicial Amendments Act of 1994, Pub. L. No. 103-420, § 2(2), (4), 108 Stat. 4343 (amending 28 U.S.C. § 612 to require deposit of electronic public access fees in what is now known as the Judiciary Information Technology Fund—see note 51 *infra*).

impose time limits on terminal usage or other measures to allow all who travel to the court to inspect the case files.

3. *Need to Evaluate "Access" in Relation to Potential ECF Vendors*

In order to implement the various components of an electronic case file system, courts may face a choice between development of their own systems and reliance on private companies to perform similar services. Several considerations should be addressed if electronic filing systems include reliance on contractors, vendors, or service providers.

First, using private companies in an electronic filing system may create the appearance that a court is endorsing particular products or bestowing a benefit upon particular companies. Procurement requirements should be carefully studied before proceeding with an electronic case file system that relies on private vendors or contractors. Second, another aspect of the issue of court endorsement of private products is whether a court system should itself provide the same kind of services a private company might provide.⁴⁶ Depending on the circumstances, such "assistance" could pose questions about the practice of law and potential liability if litigants receive flawed advice that adversely affects their rights or liabilities. More broadly, it raises the question of how far a court should go (or what is the court's proper role vis-a-vis the bar) to provide services to litigants and potential litigants.

Finally, although courts may use contractors to perform certain functions (such as bankruptcy noticing), contracts should not be made with private entities for the performance of core "government functions."⁴⁷ In developing electronic case file systems, courts should not allow contractors to make the type of discretionary decisions that are otherwise reserved for judges and judicial branch staff.⁴⁸ Also, any "outsourcing" arrangements for maintaining electronic case file systems or components must ensure continuous service for the court and the public even if there is a change of vendor.

⁴⁶ For example, a "user-friendly" electronic filing system theoretically could provide on-line assistance to litigants in preparing standard pleadings, forms, and other filings.

⁴⁷ Under regulations issued by the Office of Management and Budget, functions deemed to be inherently governmental should be performed only by government employees. See OMB Circular Q-76 (Aug. 4, 1993). In the bankruptcy system, there is statutory authorization for the courts to utilize outside facilities or services to provide notices, dockets, calendars, and other administrative information to parties in bankruptcy cases at the expense of the bankruptcy estate. See 28 U.S.C. § 156(c) (1994).

⁴⁸ As indicated in Part III (anticipated functional characteristics of ECF systems), each court must maintain effective control of its dockets and other case records.

D. Financial Considerations

1. Fees Issues

Fee issues to be examined in connection with the electronic case files project include both broader policy questions, such as the degree to which users of the system should pay the costs incurred by the courts for equipment and software, and more specific details, such as whether any fees charged should be the same in all federal courts or for all types of documents and access.⁴⁹

Decision-makers should keep in mind three key facts. First, Congress has directed that the judiciary impose fees for access to electronically stored information. Second, it has mandated that all new expenditures be offset by new collections or reductions in current spending. Third, there is a long-standing principle that the government should seek, not to earn a profit, but only to charge fees commensurate with the cost of providing a particular service.⁵⁰

In analyzing court fees and determining what should be charged for use of an electronic case file system, many specific issues must be considered and resolved. These include:

- Should the cost of an electronic case file system be paid entirely by user fees, or by a mix of fees and appropriated funds? Should start-up costs be paid for differently than continuing costs? What is the anticipated impact of fees on user access to case file information?
- Should an electronic filing or usage fee be charged in addition to, or included in, the current "filing fee" (which varies by the type of proceeding and generally applies only to case-opening documents)?
- Which filings should be subject to an electronic filing fee—initiating documents only (complaint, bankruptcy petition, notice of appeal) or all documents?
- Should electronic filers receive a discount on the "filing fee" (to reflect the lower cost to the court of processing an electronically filed case)? Should there be a surcharge for paper filings?
- Should electronic filing fees be the same in all federal courts?

⁴⁹ Appendix E outlines the current authority for imposition of filing and other court fees.

⁵⁰ Preliminary considerations concerning the costs that courts may incur in establishing ECF are addressed in Appendix F.

- If a separate, electronic filing fee is to be charged, should it be imposed specifically by statute or by the Judicial Conference?
- Should an electronic filing fee be a flat fee or should it be measured by the size of the filing (based on transmission time or similar measure of volume)?
- If "front end" costs of an electronic case file system are high, should electronic filing fees be set high, initially, and then lowered after start-up costs have been paid? Or, should any fee be set at a level that will amortize the costs over a reasonable period? Or, should electronic filing be introduced "free" with disclosure that charges may be established at some later date?
- Who should be exempted from paying any electronic filing fee: The United States? Agencies and programs funded from judiciary appropriations? Indigents within the meaning of 28 U.S.C. § 1915?
- Where should collections from the fee go: The Judiciary Information Technology Fund?⁵¹ The Judiciary Information Technology Fund and earmarked for electronic filing? The fund authorized for the operation and maintenance of the courts of the United States under 28 U.S.C. § 1931?
- What should be the policy with respect to electronic case file systems developed and maintained by private vendors that bill separately for use of their systems?⁵²

2. *Methods of Collecting Fees*

There are a large number of different approaches possible for collecting fees related to an electronic case file system. The following short list is provided to illustrate some of the possibilities without going into detail:

- secure credit card transactions over the Internet,

⁵¹ The "Judiciary Information Technology Fund" was formerly known as the "Judiciary Automation Fund." See 28 U.S.C. § 612.

⁵² If a court requires litigants to file documents by a method that necessarily involves the payment of a fee to a particular third party, questions arise concerning both the authority to charge the fee, as well as the purpose of the fee. Under 28 U.S.C. § 1914(b), for example, the district court clerk may charge only fees that are prescribed by the Judicial Conference. See also 28 U.S.C. §§ 1930(e), 1926(b) (1994). The court would need to structure any arrangements with a private company to avoid making the latter an agent of the court when charging fees for the company's services.

- traditional electronic payment methods linking EDI and electronic funds transfers commonly used in government procurements,
- pre-funded accounts established with either the court, or more generically with a third party, and
- the current method of central billing in use for PACER.⁵³

3. *Funding the Transition to ECF*

To date, electronic case files projects have generally been funded locally or underwritten by commercial vendors that, in turn, charge subscription and user fees of their own. The Internet-based prototypes in the Northern District of Ohio, the bankruptcy court for the Southern District of New York, and the District of New Mexico have received support from the Judiciary Information Technology Fund as well as local court budgets. These approaches to funding ECF systems remain as possible options.

Starting with fiscal year 1997, the judiciary has greater freedom in the use of revenues generated from electronic public access fees, which are deposited to the Judiciary Information Technology Fund. The House and Senate appropriations committee reports on the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1997, includes language expressly approving use of these monies for electronic filings, electronic documents, use of the Internet, etc.⁵⁴

E. Judiciary Resources

1. *Need for Training*

Educational efforts will be needed to acquaint users, both inside and outside the courts, with the benefits of new technology and how to use it. In particular, the Administrative Office of the United States Courts and the Federal Judicial Center should develop appropriate educational programs that bring together court users and court systems staff to explore issues related to ECF.

⁵³ The details of the possible approaches remain to be defined. One policy question is whether the court can accept credit card payments and pay the credit intermediary a percentage of the fee for this service, or whether a surcharge might be required to use a credit card. Another is how to collect filing fees from pro se litigants (who might not have access to credit cards or the other funding arrangements mentioned above), or from debtors filing bankruptcy. A credit card charge for court fees incurred by a bankruptcy debtor might not be legally collectible absent a legislatively created exception to the automatic stay of § 362 of the Bankruptcy Code.

⁵⁴ S. Rep. No. 104-353, 104th Cong., 2d Sess. 87 (1996); H.R. Rep. No. 104-676, 104th Cong., 2d Sess. 89 (1996).

2. Effects on Court Staff

The transition to ECF will have a significant impact on court staff. It will highlight the already existing need for operations staff to understand the underlying automation concepts that make an ECF system function. Because less information will need to be entered manually, a docket clerk could focus to a greater degree on reviewing the accuracy of docket entries and checking compliance with procedural and format requirements. Chambers staff will need to learn to search and review electronic files, rather than find and mark pages in a paper document or file. If the Internet is part of the ECF environment, some understanding of how the Internet is used to receive filings and provide proof of service may be necessary.

3. Staffing Requirements

Use of ECF applications will certainly create the opportunity, if not the need, for reassignment of work and resources in the court. It might even provide opportunities for staff attrition if the budget situation should require that step. Staff time not spent reviewing paper files and typing docket information, for example, might be spent performing quality checks on docket entries made with information supplied by the litigants, verifying that the electronic file contains complete and accurate information, and providing enhanced case management services to the bar and bench. The file room staff may have fewer materials to file, distribute, mail and archive, but some paper documents will still be filed and file room staff might be used to print material on demand or support public inquiries for electronic information. Thus, while some current clerk's office functions may disappear, and even a net reduction in total staff might occur, there will also be significant need for staff retraining and upgrading of responsibilities.

The transition to ECF will also intensify the courts' reliance on their automation staff. New systems and demands for services will require them to place increasing emphasis on hiring, retaining, training and supporting highly qualified technical staff.

To the extent that an imaging application is utilized, the time for entering documents and information at the time of case opening is likely to increase. This should be balanced, however, by an overall savings in time by the users of the information who can call it up on a terminal and not have to search for a file, or have to wait for the brief, motion, or other document to be routed to them. Resources required to move the paper through the courthouse should also be reduced.

4. Potential Effects on Work Measurement Formulas

In the short term, implementation of any ECF activity should not significantly affect the prescribed staffing formulas. Future assessment of those formulas should take into account the changes in case processing caused by an ECF application. Since no workload-based staffing for-

mula applies to chambers staff positions, the impact of ECF would not be immediately reflected in the policies on chambers staffing.

5. Facilities Issues

In the short term, implementation of ECF applications might reduce overcrowding in a file room, reduce the need for routine archiving, and make space available for other purposes. The amount of shelf space made available by reduced files storage may not lead to longer-term overall space savings unless there is a major reconfiguration or relocation of an office.

Additional space required for ECF computer equipment should be minimal. If scanning images is part of the application, some additional work space might be required to accommodate new equipment. Likewise, additional space may be required for new public access terminals or kiosks.

In some locations the availability of phone lines or access to the federal judiciary's Data Communications Network (DCN) may be an issue that must be resolved before experimentation can begin. An ECF application can only be successful if all the judges and court staff can access the system, and if the litigants and the public are provided reliable access to the filing and case management systems.

F. System Integration and Telecommunications

1. System Integration

Electronic case files should be integrated with the courts' electronic docketing and case-management systems. Integration or interoperation with jury, finance, probation/pretrial services, and other court systems is important, but those systems traditionally have not been integrated and the relationships among them are looser than with case management and docketing. Data and ISA (Information Systems Architecture) standards should enable adequate interoperability between these systems. Also, the current trend toward greater compatibility among computer applications and hardware should facilitate integration or interoperation of court systems.

Over the past twenty years, electronic docketing and electronic case management have been closely linked. The "legacy" electronic docketing systems—ICMS (civil and criminal), BANCAP, NIBS (National Integrated Bankruptcy System), and AIMS (Appellate Information Management System)—have provided both docketing and case management. Now, as they become available, it is clear that electronic case files are logically very closely tied to electronic docketing because the chief purpose of docketing is to record entries of new documents into the case file and an electronic format for those documents will aid in case management. Standards

should provide for adequate interface or linkage between electronic case files and the existing docketing and case management systems. Because of the very close relationship among these functions, however, greater benefit might be obtained by fully integrating electronic case file, docketing, and case management applications as modular components of the same system.

a. Stand-Alone ECF System Linked to Case Management/Docketing System

Electronic case files could be maintained by a stand-alone system that builds linkages to information extracted from existing docketing systems. This has been demonstrated in a number of pilot experiments.⁵⁵ In this approach, the electronic documents are stored in a database separate from docketing and case management information, but users can access case file documents through familiar mechanisms such as viewing a docket sheet. From there, a simple mouse-click on the docket entry will display the underlying document.

Such systems deliver most of the benefits associated with easy retrieval of case file information. But they do not provide the additional benefit of docketing information received as a by-product of filing. In addition to storing the electronic document into the case files system and establishing a link to the docketing system, court personnel must make the docketing entry just as they have always done.

If this approach is followed, software should be devised to take data collected from the filer (e.g., an attorney or a judge) and generate docketing information that can be automatically submitted through a link to the court's docketing and case management system. There have been some successful experiments with limited automatic docketing to ICMS systems,⁵⁶ but creating software to accomplish this with a wide range of docket events may require substantial additional development.

This linking approach utilizes the existing legacy case management/docketing systems. An advantage might be that ECF can be implemented without developing new full systems; but a possible disadvantage is that this approach increases reliance on those legacy systems.

b. ECF Incorporated into Case Management/Docketing System

Incorporating electronic case files into a court's case management/docketing system offers all the benefits associated with easy document retrieval, plus at least some potential for "free" data entry and docketing. The Internet-based filing systems in the Northern District of Ohio, Southern

⁵⁵ For example, the pilots in the Southern District of Texas, Western District of Oklahoma (bankruptcy), and District of Kansas (bankruptcy) include this feature.

⁵⁶ The "Robo Clerk" in the Eastern District of California (bankruptcy) provides automatic docketing to ICMS.

District of New York (Bankruptcy Court), and District of New Mexico, along with commercial products like CLAD and WestFile, suggest the viability of this approach.⁵⁷ Such a system could be acquired by enhancing/rewriting one of the prototype systems; developing a totally new system based upon combined ECF, docketing, and case management requirements; or finding/commissioning a commercial product that meets those requirements. Depending upon the suitability of existing prototypes, this approach might entail a major additional development undertaking. Selection of the best alternative(s) will depend on the ECF functional requirements ultimately developed.

Existing legacy case management/docketing systems could be phased out by switching to a new system for all cases filed after a certain date. (In the electronic filing system for maritime asbestos cases in the Northern District of Ohio, all actions filed on or after January 1, 1996 were entered into the new system.) The legacy systems and the paper case files for its cases could continue in use for a few years until their volume declined to the point where it would be advantageous to convert the information and store it in the new system. Or, the legacy system could be immediately abandoned with all case management/docketing information converted to the new system. But it may be advantageous to maintain the paper case files for those converted cases rather than trying to scan the full content of their files into electronic format.

2. *Links*

“Hyperlinks” are electronic pointers to additional sources of information that can be obtained simply by “clicking” the mouse on highlighted words or symbols. Depending on the context, the information source may be a different part of the same document, a related document in the court’s computer, or a remote information source accessed via the Internet or some other network. These links can be quite useful in cross-indexing related information, or in referring to a source of more information for an interested reader.

A link to an external source (such as an Internet “Web” site) may change or disappear between the time the document is created and the time it is viewed. This means that a judge or other user of electronic case files who follows a link may see information different from what was intended when it was created, or may find no information at all. For the same reason, links to external sources may pose problems for creating an official case file archive. Until these concerns are resolved, it might be appropriate to limit links to information sources that are within the case file system or other records that are under the court’s control.

⁵⁷ It should be noted, however, that these prototypes provide “parallel” docket and case management functions. They do not link to the court’s existing systems.

An area for future exploration is the use of “active” citations that take the reader directly to cited case law, statutes, and other legal authority. Citations could be hyperlinks to any provider of the particular information (for example, WESTLAW or LEXIS-NEXIS). It should be kept in mind, however, that access to legal research through these active citations may be limited to authorized subscribers if proprietary services are the designated information source.

3. DCN and Internet

It is clear from a security perspective that isolation of the federal judiciary’s DCN from the Internet is a major consideration. Outside users who gain access to the electronic case file system by modem or the Internet should not be able to obtain access to the DCN and court systems through the ECF interface.

It is also clear that maintaining electronic case files will increase the load on the DCN. Most of this increased load will be local, and the high speed local area network will probably be capable of supporting these requirements, particularly if local networks can be segmented to isolate some of the network traffic. The question of using the wide area network for transfers of electronic case files between courts and divisional offices should be evaluated to determine whether the current capabilities will support the anticipated traffic.

Serious attention must also be given to bandwidth requirements (i.e., the capacity of a network to carry multiple and/or complex transmissions simultaneously). The architecture for providing Internet access to all courts needs definition, and the architecture chosen will affect bandwidth requirements. For example, will there be a central source for Internet access, which implies a potential bandwidth bottleneck, but simpler security and management? A central Internet access point may also affect DCN bandwidth requirements.

G. Transition to ECF: Acceptance by the Courts, the Bar, and the Public

Successful implementation of electronic case files in the federal courts will require acceptance and cooperation by courts, attorneys, litigants, and interested members of the public.

This section briefly notes several issues that will affect the transition to ECF.

1. Judges

- Some judges may not believe that ECF will benefit their court, and many may decide to continue using paper documents and files in chambers and the courtroom. Although judges must be afforded both access to the ECF environment and the support and training that would enable them to use the new systems effectively, hands-on us-

age need not be mandatory. ECF should be made available to all judges who wish to take advantage of it, but judges who wish to continue using paper copies of file documents in their work should be accommodated.

2. *Court Staff*

- Pilot projects and experiments should continue with courts that are willing to participate in a national effort to assess various approaches to ECF.
- If a court's current system is functioning adequately, there may be limited enthusiasm for a major or painful overhaul. On the other hand, if a court's current system is being overwhelmed, there will likely be a willingness to try a new system out of necessity (as the bankruptcy courts did in the recent past).
- Electronic filing technology will require change to the court's business processes related to case file information.

3. *Bar/Litigants and Public*

- Users may have initial reservations about the system, notably in the areas of reliability, security, and access. Education and good systems implementation should alleviate these concerns.
- Practitioners' enthusiasm for using the system may depend upon several factors: (1) their current use of technology; (2) the compatibility of the court's system and their system (if any); (3) the perceived costs of using the system (training and equipment); (4) the perceived benefits of using the system (eliminating messenger services, docketing staff, and travel); and (5) the reaction of their clients. By adopting solutions that have gained or are likely to gain broad national acceptance, the federal courts can encourage compliance by those court users and potential users who have not yet developed the requisite technology on their own.
- Government agencies may be affected by the same factors, along with three others: (1) the burdens of their own caseload; (2) the reaction of the people who appear before them; and (3) any new statutory requirements (e.g., the "Electronic Freedom of Information Act" amendments) or policy initiatives (e.g., the National Performance Review) that require them to keep records in electronic form.
- Information security will be a paramount concern for all parties, and some users may be hesitant to put confidential information into the system. The answer to this concern

may come in improvements in encryption technology, and the availability of multiple levels of encryption (e.g., “public”, “court-only”, “chambers-only”).

H. Special Considerations

At each court level, there are distinguishing factors (differing types of case file users, procedural steps, or modes of operation) that raise unusual or unique issues or otherwise call for differential treatment in the development of electronic case file systems. As the judiciary moves ahead to evaluate possible approaches to ECF, pilot projects and experiments should be used to test alternative methods for addressing these factors in each type of court (district, bankruptcy, appellate) in which they may arise. The following are just some of the special circumstances that should be taken into consideration.

1. *Sharing of Case File Information Among Multiple Users*

Technological and work processes that facilitate sharing of case file information are necessary whenever more than one judge or court has a simultaneous need to use the same file. Examples include cases that are assigned concurrently to a district judge and a magistrate judge, and when multiple judges require access to documents presented to a court of appeals panel, a three-judge district court, or a bankruptcy appellate panel. Likewise, a district judge and a bankruptcy judge may need to use the same bankruptcy case file where there are appeals of certain issues to the district court while the case is pending in the bankruptcy court.

2. *Access to Related Information Outside the Court’s Case File*

Some information is routinely used by court staff but is not a part of the public case file. For example, district court judges periodically receive reports from pretrial services and/or probation officers that become part of a criminal case file. (Indeed, the pretrial services office often creates the first documents for the criminal case file within its own file system, and its files may remain separate from those of the district court itself). In the bankruptcy context, proceedings involve questions of estate administration and include claims by and notices to creditors and other interested parties, as well as conventional litigation documents. United States Trustees, case trustees, and bankruptcy administrators are additional participants (and case file users) that are not involved in other types of federal court actions. At the appellate level, the courts handle files from district courts and other courts in the judicial branch, and also from federal agencies and Article I courts (e.g., the U.S. Tax Court) that are not part of the federal judiciary.

3. Availability of Files for Geographically Dispersed Judges and Staff

The fact that appellate judges work in panels of three or more, and that they are likely to be in separate cities, creates a challenge for communication and dissemination of case materials. In some cases, the case files are routed from one chambers to the next. In others, the district court file is only sent to the judge authoring the opinion, or is not requested from the district court except in limited circumstances. Motions, briefs and other information are often sent simultaneously to all panel members. The issue of remote access to files also arises for judges at all levels of the judiciary who do not sit at the central court location.

4. Special or Unusual Documents, Proceedings, and Users

Certain types of cases are, by their nature, particularly time-sensitive or require special handling due to the circumstances of the litigants involved. Examples of these proceedings might include death penalty cases, prisoner civil rights litigation, and some other categories of pro se cases. Similarly, as discussed above, particular items in a case file may require special treatment or procedures due to the format in which they are created or the manner in which they are used by the parties or court personnel (the case file charts included in Appendix D identify some of these special factors). Also, it may be necessary to address in ECF system design or procedures the needs of users with disabilities or other circumstances affecting their ability to utilize electronic case files.

V. Interim Technical Standards and Guidelines

The new federal rules amendments authorize federal courts to establish local rules under which documents can be filed, signed, and verified by electronic means, provided such means are consistent with technical standards, if any, established by the Judicial Conference of the United States. The Committee Note on amended Civil Rule 5(e) explains that national technical standards for electronic filing “can provide nationwide uniformity, enabling ready use of electronic filing without pausing to adjust for otherwise inevitable variations among local rules. . . . Perhaps more important, standards must be established to assure proper maintenance and integrity of the record and to provide appropriate access and retrieval mechanisms.”

Interim technical standards and guidelines have been circulated among the judiciary and potential filers for purposes of eliciting comments and suggestions. They are reprinted in Appendix B of this paper. After comments are received and evaluated, the proposed standards and guidelines will be considered by the Committee on Automation and Technology, which may forward them to the Judicial Conference for consideration and possible adoption at its September 1997 session.

The proposed technical *standards* are intended as mandatory requirements that courts choosing to permit electronic filing must implement in order to comply with the amended rules. They focus primarily on ensuring the “integrity of the record” and providing a capability for filing which is at least as good as existing paper systems. The proposed technical *guidelines*, on the other hand, are not intended to be mandatory requirements, but rather recommendations for experimental use subject to further evaluation. They focus on promoting “nationwide uniformity” of electronic filing across the courts.

The proposed technical standards are offered as guidance to those courts that may choose to implement electronic filing in advance of action by the Conference. Some courts have already begun experimenting with electronic filing using approaches that pre-date the proposed standards. The standards propose that such courts be permitted a *two-year transition period* to come into compliance with the established national standards.

VI. Conclusion

The purpose of this paper is to initiate discussion—among judges and court staff and, ultimately, with the bar and other interested parties—and encourage concerted (national and local) action to effect a transition from paper-based to electronic case files in the federal courts. Though several courts are developing and testing possible systems and applications, such efforts will achieve the greatest success if there is judiciary-wide leadership in exploring alternatives and tackling the many issues that will have to be resolved. With broad participation, minimum national standards can be established to guide individual courts toward the most efficient and cost-effective approaches that meet local *and* national needs. This paper, which suggests some of the possibilities and suggests a general approach, is only the beginning of that process.

ELECTRONIC CASE FILES STUDY PROJECT**Committees of the Judicial Conference of the United States**

<i>Hon. J. Owen Forrester, GA-N</i>	<i>Chair, Committee on Automation and Technology, and Project Sponsor</i>
<i>Hon. James Robertson, DC*</i>	<i>Project Liaison, Committee on Automation and Technology</i>
<i>Hon. J. Rich Leonard, NC-E(B)*</i>	<i>Project Liaison, Committee on Court Administration and Case Management</i>
<i>Hon. John Lungstrum, KS</i>	<i>Project Liaison, Committee on Court Administration and Case Management</i>

Administrative Office of the United States Courts**Executive Oversight**

<i>Leonidas Ralph Mecham</i>	<i>Director</i>
<i>Clarence A. Lee, Jr.</i>	<i>Associate Director for Management & Operations</i>
<i>Noel Augustyn</i>	<i>Assistant Director, Office of Court Programs (OCP)</i>
<i>Peter McCabe</i>	<i>Assistant Director, Office of Judges Programs (OJP)</i>
<i>Pamela White</i>	<i>Assistant Director, Office of Information Technology (OIT)</i>

Judiciary Automation Umbrella Groups

<i>Terence Dunn, Oregon(B)*</i>	<i>Project Liaison, Bankruptcy Case Management and Statistics Umbrella Group</i>
<i>Hon. Dennis D. O'Brien, MN(B)*</i>	<i>Project Liaison, Courtroom and Chambers Umbrella Group</i>
<i>Robert Shemwell, LA-W*</i>	<i>Project Liaison, District Case Management and Statistics Umbrella Group</i>
<i>George Lange, 2d Cir.*</i>	<i>Project Liaison, Appellate Case Management and Statistics Umbrella Group</i>
<i>Daniel Martin, NC-E</i>	<i>Project Liaison, Probation and Pretrial Services Umbrella Group</i>

Project Management

<i>Gary Bockweg, OIT</i>	<i>Project Manager</i>
<i>Cecilee Goldberg, OJP</i>	<i>Associate Project Manager</i>
<i>Mary Stickney, OCP</i>	<i>Associate Project Manager</i>
<i>Jeffrey Hennemuth, OJP</i>	<i>Editor</i>
<i>Robert Deyling, OJP</i>	<i>Editor</i>
<i>William Lucianovic, OJP</i>	<i>Research Coordinator</i>

Work Group Members

<i>Janice Arias, OIT</i>	<i>Bruce Curran, OIT</i>	<i>Pamela Lightfoot, OCP</i>	<i>John Ours, OIT</i>
<i>Gary Bowden, OCP</i>	<i>Mary Fritsche, OCP</i>	<i>Didi Mastrullo, OJP</i>	<i>Frederick Russillo, OCP</i>
<i>Timothy Cadigan, OCP</i>	<i>Karl Gerdes, OCP</i>	<i>Alan McMann, OCP</i>	<i>David Scott, OCP</i>
<i>Gordon Carver, OIT</i>	<i>Michael Greenwood, OIT</i>	<i>Bonnie Miller, OCP</i>	<i>James Wannamaker, OJP</i>
<i>Patricia Channon, OJP</i>	<i>Karen Hanchett, OJP</i>	<i>Mary Louise Mitterhoff, OCP</i>	<i>Daniel Wexler, OIT</i>

Court Contributors**(Focus Group Participants, Consultants, Previewers)**

<i>Ross Anderson, KY-W</i>	<i>Terry Cox, 4th Cir.*</i>	<i>Hon. Burton R. Lifland, NY-S(B)</i>	<i>Carol Ann Robinson, MO-E(B)</i>
<i>Hon. Ronald Barliant, IL-N (B)</i>	<i>Robert Dennis, OK-W*</i>	<i>Wendy Lonsdorf, NJ *</i>	<i>Anthony San Giancomo, NY-N*</i>
<i>Hon. James Barta, MO-E(B)*</i>	<i>Jerry Denslinger, TX-S*</i>	<i>Hon. Keith Lundin, TN-M(B)</i>	<i>Barbara Schemerhorn, 10th Cir.*</i>
<i>Hon. Dennis Beck, CA-E*</i>	<i>Hon. Rebecca Doherty, LA-W</i>	<i>Robert March, NM</i>	<i>Hon. Harvey Schlesinger, FL-M</i>
<i>Hon. Richard A. Belz, FL-N</i>	<i>Molly Dwyer, 9th Cir.*</i>	<i>Hon. John S. Martin, NY-S*</i>	<i>Hon. Joanna Seybert, NY-E</i>
<i>Hon. Mark Bennett, IA-N*</i>	<i>William Eggemier, 6th Cir.*</i>	<i>Hon. Blanche Manning, IL-N</i>	<i>Geri Smith, OH-N</i>
<i>Hon. William Bertelsman, KY-E</i>	<i>Hon. Ronald Ellis, NY-S</i>	<i>Hon. Roderick McElvie, DE</i>	<i>Hon. Jerry Smith, 5th Cir.*</i>
<i>Hon. Susan Black, 11th Cir.</i>	<i>Hon. Leif Erickson, MT</i>	<i>Hon. Tucker Melancon, LA-W</i>	<i>Jay Stevens, FL-M</i>
<i>Anthony Bonfanti, 5th Cir.</i>	<i>Hon. Lisa Hill Fenning, CA-C(B)</i>	<i>Michael Milby, TX-S*</i>	<i>Carl Stewart, FL-M(B)</i>
<i>Hon. Celeste Bremer, IA-S</i>	<i>Michael Gans, 8th Cir.*</i>	<i>Cecelia Morris, NY-S(B)</i>	<i>James Waldron, NJ(B)</i>
<i>Russell Brenner, KS(B)</i>	<i>John Greacen, NM(B)*</i>	<i>Karen Moss, 1st Cir.</i>	<i>Hon. Donald E. Walter, LA-W</i>
<i>Kathy Brouwer, 2nd Cir.*</i>	<i>Hon. Michael D. Hawkins, 9th Cir.</i>	<i>Hon. Geraldine Mund, CA-C(B)*</i>	<i>David Weaver, OH-N</i>
<i>Hon. Tina L. Brozman, NY-S(B)</i>	<i>Richard Heltzel, CA-E(B)*</i>	<i>Mark Neer, CA-C</i>	<i>Mark Wells, TX-S</i>
<i>Cameron Burke, ID</i>	<i>Debbie Hirshberg, FL-S*</i>	<i>Hon. Nancy Nowak, TX-W*</i>	<i>Robert Wily, VA-E(B)*</i>
<i>Cathy Catterson, 9th Cir.</i>	<i>Sheila Jacoby, AL-S*</i>	<i>John E. Panek, 7th Cir.</i>	<i>David Young, 5th Cir.*</i>
<i>Hon. Deborah Chasanow, MD</i>	<i>Hon. Elizabeth Jenkins, FL-M</i>	<i>Hon. Jim D. Pappas, ID(B)</i>	<i>Markus Zimmer, UT</i>
<i>Hon. Robert Cindrich, PA-W</i>	<i>Hon. Larry E. Kelly, TX-W(B)</i>	<i>Hon. John Porfilio, 10th Cir.</i>	
<i>Donald Cinnamon, OR</i>	<i>Hon. Cornelia G. Kennedy, 6th Cir.</i>	<i>Lloyd C. (Sonny) Ray, Jr. TN-M(B)</i>	
<i>Geraldine Crockett, IN-S</i>	<i>Mark Langer, D.C. Cir.</i>	<i>Bruce Rifkin, WA-W</i>	

* indicates focus group participant



Administrative Office of the United States Courts
Thurgood Marshall Federal Judiciary Building
Washington, D.C. 20544