

THE HISTORY OF THE FEDERAL JUDICIARY'S AUTOMATION PROGRAM

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The mid-1970s were the predawn hours for automation in the federal courts. The Administrative Office of the United States Courts (A.O.) had a small, centralized computer operation to handle basic business applications such as payroll, accounting, and statistics. The Federal Judicial Center (F.J.C.) had been dabbling in automating the operations of clerks' offices. The courts themselves had essentially nothing beyond electronic memory typewriters. Few in the federal judiciary were aware of the potential benefits of automation and many feared its very introduction. Today, however, there exists a host of automation products serving the specific needs of judges, courts, and the public.

I. AUTOMATION'S INCEPTION

Dr. Richard Fennell, now Chief of the A.O. Technology Enhancement Office, was part of the early automation development team at the F.J.C. He recalls that the passage of the Speedy Trial Act of 1974¹ provided the impetus to undertake an ambitious case-management automation effort.² In 1975, the F.J.C. initiated the COURTRAN project,³ which included a full-featured electronic docketing system for managing criminal cases and tracking the complex Speedy Trial Act time deadlines.⁴ Because there was no

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1. 18 U.S.C. § 3161 (1988).

2. See JUDICIAL CONFERENCE OF THE U.S., REPORTS OF THE PROCEEDINGS OF THE JUDICIAL CONFERENCE OF THE UNITED STATES 56 (1979).

3. See Charles W. Nihan & Russell R. Wheeler, *Using Technology to Improve the Administration of Justice in the Federal Courts*, 1981 B.Y.U. L. REV. 659, 668 (describing development of first COURTRAN prototype).

4. See Nihan & Wheeler, *supra* note 3, at 671-72 (describing development of COURTRAN Criminal Caseflow Management System to help courts stay in compliance with Speedy Trial Act).

commercially available case-management software in those days, the F.J.C. developed its own custom system.

Initially, the COURTRAN system ran on a large computer in Washington, D.C. Courts were connected via "dumb terminals" that provided input and output capability, but relied on the host computer for processing power and data storage. Business process re-engineering, which is quite in vogue today, teaches that existing work processes ought to be studied and improved before being automated.⁵ At the inception of the COURTRAN project, however, there were major concerns about users accepting the new technology. The strategy, therefore, was only to automate existing methods in an effort to minimize workflow disruption and thereby to overcome early user reluctance.

The U.S. District Court for the Northern District of Georgia was one of the pilot courts for the COURTRAN case-management system.⁶ Its experience illustrates the growth in use of automation in the courts. Training on the COURTRAN system in the Northern District of Georgia began in September 1977, when the court started its operations with two COURTRAN terminals and one printer. One year later, the first of several additional applications began to run through the COURTRAN system in the Northern District of Georgia. The COURTRAN Index contained information regarding all pending and closed cases. Gradually, the court equipment expanded to three data entry terminals. Today, there are twenty-three docketing terminals and another 125 users have direct access to the court's two in-house microcomputers to review the database and to make occasional entries. Three terminals now are available solely for public access.

By 1979, a COURTRAN program for managing civil cases had been developed. It became operational in the Northern District of Georgia in 1981. Also in 1981, personnel leave accounting records and property management records were added to the COURTRAN family of programs.

5. See generally Cynthia Munger, *Practice Efficiency; Process Reengineering: Revolutionizing Legal Services*, 21 LAW PRAC. MGMT. 22 (1995) (describing concept of business process reengineering in legal profession); Sharon Caudle, *Reengineering and Information Resources Management*, THE PUBLIC MANAGER: THE NEW BUREAUCRAT, Dec. 22, 1994, at 39 (describing business process reengineering in government). For a comprehensive overview of business process reengineering, see MICHAEL HAMMER & JAMES CHAMPY, REENGINEERING THE CORPORATION: A MANIFESTO FOR BUSINESS REVOLUTION (1993).

6. Beginning in 1975, six district courts volunteered as pilots to assist in the design, development, and testing of the COURTRAN system. By 1978, the Federal Judicial Center had completed the development of the COURTRAN system and had installed the system in 17 courts.

Software applications were continuously added to COURTRAN. For example, in 1982, the Central Violations Bureau computer system began operating in the Western District of Texas. This system handled the collection of fines in petty offense and misdemeanor cases for almost half of the courts in the country.⁷ Other applications, including property inventory records and attorney rolls, were also added around this time. With these additions, a pattern began to develop that would foreshadow the development atmosphere of the 1990s. Many of the add-on applications were developed as a result of coordination between technical experts in Washington, D.C. and courts across the country.

Experience with the COURTRAN programs created user demand for more "connectivity" than could be met at one central location. At the same time, changes in technology allowed developers to meet this demand by using decentralized systems. Dr. Fennell recalls that with the maturing of microprocessor technology and the increasing market availability of open-system operating environments such as UNIX, a decision was made to base the next generation of software applications on a decentralized computing architecture, whereby powerful microcomputers would be placed in each court.⁸

While formal methods, such as Joint Application Design (JAD) for the collection of user requirements,⁹ were not unknown in the judiciary in the 1980s, there was a great deal of interaction between the technical developers and the user community. Dan Thomas, district clerk for the Northern District of Georgia, remembers meeting three to four times per year in Washington, D.C. with other court representatives to discuss functional requirements.¹⁰ The user community wished to have a multi-user system with full docketing and reporting capacity that could serve the largest metropolitan courts on a decentralized computing architecture located in the court.

The Integrated Case Management Systems (ICMS) replaced COURTRAN in the mid-1980s. Dr. Gordon Bermant, Director of Planning and Technology for the F.J.C., who was on the ICMS development team, observed that the users' complex requirements led

7. See JUDICIAL CONFERENCE OF THE U.S., REPORTS OF THE PROCEEDINGS OF THE JUDICIAL CONFERENCE OF THE UNITED STATES 66 (1987).

8. Telephone Interview with Richard Fennell, Chief of the A.O. Technology Enhancement Office (Jan. 20, 1995) [hereinafter Interview with Fennell].

9. See William R. Dodson, *How to Manage Personnel Changes*, DATA BASED ADVISOR, Mar. 1995, at 92 (describing joint application design); David Reason, *Re-inventing the Wheel: Business Process Reengineering*, COMPUTING CANADA, Mar. 30, 1994, at 24 (describing joint application design).

10. Telephone Interview with Dan Thomas, District Clerk for the Northern District of Georgia (Jan. 20, 1995).

to the creation of a very rich and technically complicated architecture for the ICMS.¹¹ Even today, court systems administrators marvel at the sophistication of the artificial intelligence programming of these early applications.

The ICMS family of programs was developed using an approach known as "evolutionary prototyping,"¹² under which customers experimented with new software as it became available, and planners anticipated that the software would be improved through continuous customer feedback. The Northern District of Georgia went "live" with ICMS Civil in January 1987. Because automation was so novel within the judiciary, extensive training was necessary. Two training and user support centers, located in San Antonio and Phoenix, began providing exceptional services to courts. These centers undertook the additional roles of supporting those programs. Later that year, the A.O. awarded the first national contract for PCs and related equipment.¹³ By 1989, about one-quarter of the courts had the new case-management software installed.¹⁴ The next three years were transitional. Local courts realized that they would have to create strong automation teams to manage the new systems.

By the late 1980s, the federal judiciary began to experience the end-user computing phenomenon. Dr. Fennell's recollections and perspective on those times are insightful:

As a reaction to the productivity bottleneck that most large organizations were experiencing in their centralized computer shops, end-users welcomed the opportunity to take control of providing for some of their own automation needs. In the courts, PC expertise grew and many court units developed automation applications to address their local requirements; some of these applications were shared with other courts. Unfortunately, but perhaps not surprisingly, there also arose a sense of competition between the PC advocates in the courts and those working on the centrally developed, UNIX-based national software applications. It was not until the market emergence of "client/server" technology that each side came to appreciate that PCs and multi-user comput-

11. Telephone Interview with Gordon Bermant, Director of Planning and Technology for the Federal Judicial Center (Jan. 20, 1995).

12. "Evolutionary prototyping" is a software application development methodology whereby the software product is delivered to the end-users as a series of incremental prototypes. User feedback guides the enhancement of delivered phases and the development of subsequent phases, so that the resultant system evolves from the various incremental deliverables based on the users' evolving functional requirements.

13. The A.O. awarded the contract to Everex Federal Systems, Inc.

14. *See* ADMINISTRATIVE OFFICE OF THE U.S. COURTS, FISCAL YEAR 1990 UPDATE TO THE LONG RANGE PLAN FOR AUTOMATION IN THE FEDERAL JUDICIARY [hereinafter UPDATE TO LONG RANGE PLAN FOR AUTOMATION].

ers each had their strengths and weaknesses, and that it was reasonable to seek to use each to their best advantage.¹⁵

As technical expertise in the courts grew, more software applications were developed by the technically proficient court staff. For example, the National Integrated Bankruptcy System (NIBS), a case-management system for bankruptcy courts, was a joint creation of Ward Mundy of the Eleventh Circuit and Richard Seidel of the Third Circuit. Christopher Muratore of the Bankruptcy Court in the Middle District of Florida received an award from the Director of the A.O. for the creation of the financial program which is now widely used in the courts.

II. AUTOMATION'S EXPLOSION

The explosion in automation uses of the late 1980s and early 1990s occurred under the leadership of Ralph Mecham (Director of the A.O.), Judge John Godbold (then-Director of the Federal Judicial Center), and Judge Richard Bilby of the District of Arizona (then-Chair of the Judicial Conference Committee on Judicial Improvements, predecessor to the current Committee on Automation and Technology). Judge Bilby successfully lobbied Congress to enact legislation creating the Judiciary Automation Fund,¹⁶ which provided flexibility and the opportunity to plan ahead to meet judiciary automation requirements.¹⁷ The Judiciary Automation Fund allows the judiciary to carry over funds from year to year in recognition of the rapid changes in technology and long government procurement lead times.¹⁸ Congress established the multi-year Judiciary Automation Fund in fiscal year 1990.¹⁹

That same year, the A.O. expanded its responsibility for national systems development and Congress approved \$71 million and seventy-four positions for the A.O. to manage the program.²⁰ With the help of Congress, the pace of automation expansion was greatly accelerat-

15. See Interview with Fennell, *supra* note 8. "Client/server" technology is the cooperative combination of PC workstations (clients) and multi-user host computers (servers) in a networked environment that enables software applications to take advantage of the relative strengths of both the client and server platforms.

16. 28 U.S.C. § 612 (Supp. V 1993).

17. The Judiciary Automation Fund required the Director to "develop and annually revise, with the approval of the Judicial Conference of the United States, a long range plan for meeting the automatic data processing equipment needs of the judicial branch." 28 U.S.C. § 612(b)(1) (Supp. V 1993).

18. See generally *id.* § 612.

19. Judiciary Automation Fund, Pub. L. No. 101-162, § 404(b)(2), 103 Stat. 1013 (1989) (codified at 28 U.S.C. § 612 (Supp. V 1993)).

20. See Judiciary Appropriations Act of 1990, Pub. L. No. 101-162, § 404(b), 103 Stat. 1013 (codified at 28 U.S.C. § 612 (Supp. V 1993)).

ed, and the judiciary was able to renew its commitment to providing advanced automation tools to the courts so they could accomplish their mission.

In 1990, Judge Rya Zobel of the District of Massachusetts was named the first chair of the newly created Judicial Conference Committee on Automation and Technology.²¹ She and Director Mecham guided the automation program through this period of stabilization of national automation systems.

With the creation of the Judiciary Automation Fund, the infusion of positions into the A.O., the increased availability of funding, and the increase in program responsibilities, Director Mecham and Judge Zobel wanted to make sure that the program was moving in the right direction. To that end, the A.O. hired three independent consultants to evaluate the progression of the judiciary's automation program and to provide their assessment of its worth and risks. The consultants' review, completed in June 1991, revealed that, although much progress had been made, several significant problems remained. The consultants made several recommendations in automation planning, project management, automation education and training, user support, market management and communications, software testing, and software development.²²

It was during this period that the Data Communications Network (DCN) procurement was awarded.²³ The contract envisioned that the contractor would engineer and deploy a system that would network all of the employees of the federal judiciary, enabling more rapid and efficient communications and improved information sharing.²⁴ Unfortunately, by the time the DCN contract had been awarded, its requirements were already out of date. Recognizing this problem, Director Mecham began a series of successful re-negotiations which were concluded by Roy L. Carter, the A.O. Assistant Director for Automation and Technology, and Pamela B. White, Chief of the A.O. Integrated Technology Division. In late 1991 and early 1992, with re-negotiations and reengineering complete, a data communications network was installed in a number of courts chosen as "first-stage acceptance test" sites. Surveys of court users have shown the DCN to

21. The Chief Justice appoints standing committees of the Judicial Conference of the United States. See 28 U.S.C. § 331 (1988).

22. See generally FRANK J. CARR ET AL., *THE FEDERAL JUDICIARY AUTOMATION REVIEW* (1991).

23. The A.O. awarded the Data Communications Contract in 1991 to a team headed by IBM's Federal Systems Division, which has subsequently been sold to the Loral Corporation.

24. See UPDATE TO LONG RANGE PLAN FOR AUTOMATION, *supra* note 14.

be popular and useful.²⁵ With current funding, the judiciary plans to complete communications hubs at all circuit headquarters and expand the benefits of this network to more than half of all judiciary employees.

By the end of Judge Zobel's four-year term, the judiciary's automation program had deployed many new applications and had realized several other achievements. For example, the Public Access to Court Electronic Records (PACER) system, a public access to dockets program, was installed and running in most federal courts in the country,²⁶ as was Chambers Access to Selected Electronic Records (CHASER) system, a case-management tool.²⁷ The noticing functions of the bankruptcy courts were being successfully consolidated under contract at a large and economical central facility, and all automation programs were being developed under a sophisticated life-cycle management program that structures the design, testing, deployment, support, and revision of automation projects.

In 1988, the author of this Article received a PC and began searching for advice on chambers applications. Beyond word processing, no one at the F.J.C. or the A.O. had given much thought to such possibilities. In light of what exists today, the early experimentation in chambers is humorous. A judge, a chief deputy clerk, and the UNIX systems administrator could be found huddled around the judge's PC with manuals, trying various non-intuitive DOS commands to get a piece of multi-tasking or text retrieval software to run. In 1991, an A.O. internal survey estimated that no more than one-quarter of the judicial officers had any knowledge of computers. An automation training program for judges, which began during Judge Zobel's chairmanship, received very favorable assessments. It continues to be oversubscribed.

By the end of Judge Zobel's term, new payroll and personnel systems, new financial systems, and a new fines collection center were well into the planning stages, and the Committee on Automation and Technology was exploring intriguing possibilities of applying business process reengineering to the courts.

25. See *Survey Shows Courts Use Data Communications Network*, 26 THE THIRD BRANCH (A.O. of the U.S. Courts, Washington, D.C.), May 1994, at 12.

26. See *Automation in the Federal Judiciary—A Status Report*, COURT ADMINISTRATION BULLETIN (A.O. of the U.S. Courts, Washington, D.C.), July 1994, at 1.

27. *Id.*

III. AUTOMATION'S FUTURE

Although much has been accomplished, the full benefits of automation in the courts have not yet been realized. The end product of each case brought to a federal judge is a decision, and each decision is the product of an understanding of a large body of factual and legal material. The use of automation tools can greatly facilitate control over all of this information.

Electronic filing, paperless courts, and use of advanced technology for evidence presentation in courts are visions of the future. The judiciary has begun to test state-of-the-market software development tools actively. The next generation of automation applications will likely be markedly different from its predecessors and will be produced by radically different programming techniques.

One does not have to be a futurist to predict correctly that automation tools will overtake and rapidly change traditional methods used by lawyers, judges, and court managers. Whether automation within the courts changes as rapidly as it is capable depends on budget restrictions, the rate at which judges and managers become comfortable with automation, and the rate at which technical support staff can adapt to new technologies. The federal judiciary has always been cautious as an institution. At the same time, it has always prided itself for being modern and progressive. Those two tendencies collide in the area of automation. It will be interesting to see what the future holds for automation in the federal judiciary.