
LEGAL TECHNOLOGY ANALYSIS REPORT
AND
THREE YEAR IMPLEMENTATION PLAN

PREPARED FOR:
FLORIDA SUPREME COURT
OFFICE OF THE STATE COURTS ADMINISTRATOR

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1.0 EXECUTIVE SUMMARY

The Florida Supreme Court, District Courts of Appeal, and the Office of the State Courts Administrator will soon begin an upgrade to their existing automation technology. This upgrade will affect the way the Court System delivers services to the public. The Court System has retained the services of the Legal Technology Institute to review the computer technology needs and requirements of the administrative applications, and prepare a three-year plan to help plan the transition of the Court System into new technology.

There are many facets to a technology upgrade of this magnitude. Computer hardware upgrades are a matter of replacing existing computer systems. Computer software upgrades are more complex, both from a technical standpoint and from an end user standpoint – training and support become critical at this phase.

The Legal Technology Institute was retained to assist the Court System with the long-range plan. However, during the site interviews it became apparent that additional assistance was required to address the communication barriers between the Court System and Information Systems & Services. While recommendations and detailed specifications are provided for computer hardware and software, the majority of recommendations in this report provide solutions that address these communication issues.

User sophistication and computer use have grown significantly over the past few years. With this growth, users are pushing the envelope in their use of technology. Pushing the limits of technology also changes the supporting role requirements. This leads to the continuing wheel of technology use and end user support. While user sophistication and demands have grown, the level of support has not grown to keep up with demands. This puts a strain on the resources of the ISS staff, thereby causing end user frustrations.

Computer professionals are in high demand, especially those with both a technical background and communication skills. Most professionals in all industries use a desktop computer system with a variety of software applications and a variety of computer literacy. Many MIS departments, especially those in lower-paying government environments, spend time training their staff only to lose them to higher paying, less stressful, and more challenging technical environments.

Many of the desktop application problems discussed during site interviews are typical in the computer industry. Software is enhanced to meet the demands of the end users, but is often installed and implemented on older computer systems. In short, the Supreme Court finds itself using 1997 software technology on 1994 computer technology. Many problems that currently exist will disappear with new computer hardware upgrades.

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There are many recommendations presented in this report, all designed to increase end user efficiency which in turn reflects on the level of services the Court System delivers to the public. Among these recommendations are:

- Computer desktop recommendations for new computer systems
- Software application upgrades for the *Judge's Suite*
- Upgrading the local area network infrastructure to increase response to the end user desktop
- Re-engineer the current training program to include a new position, "Training Specialist" and to incorporate additional input from end users and System Administrators
- Perform a "Workflow Analysis" to increase awareness of end user requirements and the role of ISS
- Re-engineer the current help desk function to include a system log of incidents, increase communication between end user, System Administrator, and the Training Specialist and incorporate common questions to an internal Web site
- Hire an "Application Specialist" to consult with end users on requirements and create application specific enhancements
- Hire a "WebMaster" to re-engineer, consolidate, and maintain the two individual Web sites, and to create new Intranet sites as required, internal to the Court System
- Review ISS salary structures and upgrade to reflect similar positions and responsibilities in other state government agencies

These recommendations will assist the transition of the Court System into the new computer technology upgrades by addressing both the technical and the human factor needs discussed during the site visits. They should be reviewed and discussed openly as to the advantages and disadvantages of each. Time lines should be prepared to implement the recommendations in a timely fashion, to help coordinate the computer upgrade and new Case Management System installation.

Most of these guidelines and recommendations were discussed during the site interviews. Many of the suggestions came from within the Court System and, in my opinion, reflect the commitment of all end users and support staff to become more efficient in their computer use, thereby providing better service to the Court System and to the general public in delivery of services.

2.0 INTRODUCTION

2.1 Consulting Engagement Mission

The purpose of this professional consulting engagement is to prepare a three-year plan for upgrading and implementing technology into the administration of the Supreme Court of the State of Florida, the five District Courts of Appeal, and the Office of the State Courts Administrator. Included in this plan are detailed specifications for computer software and hardware and recommendations to improve the operational efficiency of the Court System.

To accomplish this mission, I met with Supreme Court Justices, District Court of Appeal Judges, Information Systems Services (ISS) staff, System Administrators, Clerks, Judicial Assistants, Staff Attorneys, and Court Administrators. The purpose of these meetings was to gather necessary information about needs and requirements for the entire Court System.

2.2 About the Legal Technology Institute

The Legal Technology Institute at the University of Florida College of Law was established in October 1997 with a mission "to provide an innovative forum for making a positive impact and improving technology in the legal profession." Our strategic goals are to:

- Provide independent legal technology consulting services
- Provide legal technology training and resources to the University of Florida Law School
- Provide Internet consulting services and Web Site Design and Development Services to the legal profession
- Provide legal technology training and resources to the legal profession
- Establish a presence as a major legal technology information resource center
- Establish a reputable legal technology innovation & research center

3.0 CURRENT TECHNOLOGY ENVIRONMENT

The following information was relayed to me during my site visits to the Florida Supreme Court and the 1st District Court of Appeal. I also received additional information in the form of reports, diagrams, memos, and subsequent telephone conversations and electronic mail.

3.1 Overview

The technology platform model used by the Court System is based upon the *Judge's Suite*, which includes computer software and computer hardware used by the Judge and his/her staff. This model provides the basis for establishing computer software and hardware guidelines and is used by the Florida Supreme Court and the five District Courts of Appeal.

3.2 Software Platforms

Software currently specified in the *Judge's Suite* includes the following applications:

- Microsoft Windows '95 Desktop Operating System
- WordPerfect for Windows 6.1 Word Processing
- WordPerfect Office 4.0 Electronic Mail, Calendaring, To-do
- Westmate 6.2 Online Research
- West Premise 6.2 CD-ROM Research
- Quattro Pro Spreadsheet
- WordPerfect Presentations Graphics Presentations
- Internet Explorer 3.0 Internet Web Browser

3.3 Hardware Platforms

Hardware currently specified for the *Judge's Suite* existing computers include the following:

- '486/100 MHz Computer System
- 16 MB RAM Memory
- 200 MB Hard Disk Drive
- 15" Super VGA Color Monitor
- Mouse

3.4 Local Area Network

All desktop computer systems are connected to a centralized file server (one within each court), using standard Ethernet 10 mbps network topology. Additional equipment connected to the individual Court LAN includes a CD-ROM server, Case Management System server, Fax server, Mail server, and Dial-in server.

3.5 Wide Area Network

All courts are connected through a Wide Area Network system using Frame Relay, currently using a T-1 connection.

3.6 Library Resources

The Court System Library utilizes an internal LAN, not connected to the main LAN. This is because the library is accessible by the general public and the applications used in the library are isolated from the general Court System. Several staff desktop workstations are connected to the Court System LAN, but these are used by library staff and are not available to the general public.

Included in the Library resources is a standalone CD-ROM tower. The Library recently purchased a new serials catalog system (UNIX-based) to be used internal to the Library (no outside connections). The Library uses the same desktop applications as the *Judge's Suite*.

The Library is also responsible for providing content and technical assistance to the Supreme Court Internet Web site.

4.0 CURRENT PROBLEMS AND ISSUES

The following issues were discussed during my site visits to the Florida Supreme Court and the 1st District Court of Appeal and during subsequent conversations. While there are probably other issues, these were the ones the Court System thought most urgent to discuss. Included with the discussion of the problem are possible solutions. These problems and issues are not presented in any particular priority or order.

4.1 Computer Desktop Application Technology Issues

- Electronic Mail. Several issues concerning electronic mail were conveyed to me during my site visit. These include the following:
 - "Public/Private" electronic mail system requested by the Supreme Court. The Novell GroupWise application allows for custom programming. However, ISS and Novell have determined there is a known compatibility problem within the GroupWise software that causes problems when modifying the program, such as the "Public/Private" customization. This may explain several of the problems experienced by end users. According to Novell, this issue should be resolved with the next GroupWise release, currently scheduled for April 1998.
 - Screen sizing of the Electronic Mail on different end users' computer monitors does not allow some users to fully access attachments to electronic mail messages. The screen sizing seems to be a direct result of the special "Public/Private" customization. This problem could be resolved now by removing the "Public/Private" customization and installing the Novell GroupWise without program modifications. Otherwise, the problem should be resolved with the April release of Novell GroupWise.
 - Audio Mail notification. Novell GroupWise uses a different sound technology than previous versions of WordPerfect Office. The older computer systems were designed using an internal speaker, but the newer Novell GroupWise is designed to take advantage of the newer sound technologies involving audio wave tables and sound cards. This problem should be resolved when newer computers are purchased.
- Complex Word Processing Macros. Several complex word processing macros have been developed by Mr. Craig Waters using the WordPerfect Macro Programming language (WordPerfect for Windows 6.1). ISS is not familiar with either the developed macros or the WordPerfect Macro Programming language and thus cannot support these macros. This will also present a further problem in the fact that the macros are programmed in a different WordPerfect version than is recommended. Mr. Waters cannot take the necessary time to convert or support these macros in the new Corel WordPerfect environment. Users are frustrated by not having sufficient support. This problem can be resolved by hiring and

training an Application Specialist (recommended later in this report), knowledgeable and experienced in the WordPerfect Macro Programming language.

- System Administrators. Each Court (Supreme Court, DCAs) has a System Administrator to handle end user questions and interface between the Court and ISS. The System Administrator, at times, is overwhelmed with end user requests and troubleshooting problems, leaving a period of time from a request to response. System Administrators have had minimum training in the desktop applications, used in the *Judge's Suite*. This problem can be resolved by providing the System Administrators with additional training, by staffing this support role with additional personnel, and performing a workflow analysis (recommended later in this report). The current recommended ratios for support staff are one full-time technical support position for every 35-40 end users.
- End-User Training. Training is minimal for new users and new software applications. Some users don't feel they receive the training they need, nor is there follow up additional training. The Court System does not have a full-time Training Specialist dedicated to end-user training and course development. A recommendation is made later in this report for a Training Specialist.

4.2 Information Systems & Services Issues

- Turnover in ISS staff. ISS reports a 60% turnover in staff over the past two years. There are many possible reasons for this, many of which are common throughout the industry. These include computer professional salaries, work environment stress, lack of technology challenges, and personality conflicts.
- ISS training. Training for ISS staff is minimal. Most ISS training is handled on-the-job, which can lead to frustrations on both the end user and the ISS staff.
- Communications Issues. There are several issues concerning the communications between ISS and Court System staff. These include end user requests for assistance in troubleshooting problems, special projects and deadlines, and personality conflicts.

ISS handles a multitude of projects in addition to providing end user support. Often, the end user may not know the extent to the number of projects, nor the number of ISS staff working on these projects, which leads to a communication breakdown.

It must be stressed that these issues are common throughout the industry, especially in government agencies. There are two "institutions" here: one is the Judicial system which has a history of conservatism and serving the public, with little emphasis on using technology. The other is the Information Systems group, which has a legacy of providing mainframe-type application support to the Court System.

The past few years have totally changed the way the Court System operates and serve the public. Judges now draft their own opinions using desktop computer systems, but still require the mainframe database system applications. All persons involved in the Judicial process use desktop application technologies. Yet, while there has been phenomenal growth in the use of technology and the sophistication of end users, there has been very little growth in the support of those users. Recommendations are provided later in this report which address these issues and concerns.

4.3 Internet Web Site Issues

- Two separate Supreme Court Internet Web Sites. Currently, there are two separate Internet Web sites provided by the Florida Supreme Court. The initial sites were designed by two different departments for two different applications. However, over the past year, the sites have grown with additional content, some of which may be duplicated on both sites. This may lead to concerns about who within the Court System provides content and also who within the Court System is responsible for placing the content on the site. A recommendation is made later in this report addressing this issue.
- Internet Web Site Maintenance. With two separate Internet Web sites providing similar information, there exists a problem with maintaining the individual Web sites. Web site maintenance not only includes the software programming but also must include gathering the necessary content to be placed on the Site. At times, the content on the Site may be outdated. A recommendation is made later in this report addressing this issue.

5.0 GOALS AND OBJECTIVES

The following goals and objectives were relayed to me during my site visits to the Florida Supreme Court and the 1st District Court of Appeal. These are not necessarily recommendations, but are included here to provide discussion and possible technology direction. These goals and objectives are not presented in any particular priority or order.

- Access individual clerks' systems in each county. Several justices mentioned they would like the capability to access individual clerk's computer systems for gathering information and data on specific court assignments. The technical concern here is while the capability may exist at the Supreme Court level to dial out, the capability at the State Court level for dial in may not be available. A second concern is the compatibility between different court system technologies. This particular objective should be reviewed and evaluated at the Court Technology Commission level and direction provided that would assist in developing this capability.
- Printing copies of opinions. The process of drafting opinions and circulating prior to publishing requires many copies to be made of the opinion and distributed to various attorneys and judges in the office. A question was raised about using a high speed printer instead of a copy machine to make the copies. While this may seem economically feasible, there is an issue of security that should be reviewed.

Currently, the opinions are printed locally and copied at a central location; however, the original draft is handled by one person, usually within the Judge's office. Printing the opinion at a central location may pose a security concern if no one from the originating office is handling the original draft.

- Electronic distribution of Supreme Court opinions. Published opinions are distributed using several different methods. These include a paper copy of the opinion sent out to a list of about seventy-five subscribers, including librarians, chief judges, and the press corps. Other methods include electronic transfer to publishers and the University of Florida College of Law to be placed onto the Supreme Court Opinion Internet Web Site. A question was raised about distributing the opinions to these subscribers in electronic format.

Technically, there is no reason why this cannot be done electronically. The main issue is which electronic format(s) should be used. The end user typically specifies the delivered format, but there will probably be many different requests. The Court System should determine what format to be used and offer the service to end users. By sending the information electronically (electronic mail, floppy diskette, FTP) the Court System could save considerable dollars in labor, paper, and postage costs. There may be other issues (legal and ethical) that need to be reviewed prior to making this decision.

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- Desktop Faxing. Several users indicated the need for faxing documents from their desktop. This could save considerable time when faxing multiple documents and multiple pages to other locations. However, in an office environment of this size, complexity, and sensitivity, desktop faxing should be further evaluated before implementation. This evaluation should cover the need, policies for fax "phone books" and communication considerations.
- Improve communications between end users and ISS. Most of my time spent on site conducting interviews consisted of discussing concerns between the end users and ISS staff. While there are obvious communication concerns, many suggestions were provided for improvements. I have incorporated many of these suggestions into recommendations presented later in this report.

It is my opinion that both end users and ISS staff wish to resolve all conflicts in order to better serve and support the public, the main mission of the Court System. To accomplish this, there are several "re-engineering" recommendations made later in this report.

6.0 RECOMMENDATIONS

6.1 Software Recommendations

- Continue utilizing the Judge's Suite Model. I recommend the Court System continue to base the desktop applications on the *Judge's Suite* model. This model has been in place for a period of time and includes the majority of software applications used in the *Judge's Suite*. The technology philosophy of the Court System is based upon this model.

- Implement 32-bit software. I recommend the Court System implement the latest 32-bit Windows versions of the software applications used in the *Judge's Suite*. Currently, the industry standard desktop operating system platform is Microsoft Windows '95. During the next three years of software implementation, when the "standard" desktop operating system platform is upgraded, then I recommend the Court System first review and evaluate the upgrade path to the latest Windows versions of those applications at that time. The following are the recommended desktop software applications for the *Judge's Suite*.
 - Microsoft Windows '95 Desktop Operating System
 - Corel WordPerfect 8.0 Word Processing
 - Novell GroupWise 5.2 Electronic Mail, Calendaring, To-do
 - Westmate 6.2 Online Research
 - West Premise 6.2 CD-ROM Research
 - Corel Quattro Pro 8.0 Spreadsheet
 - Corel Presentations 8.0 Graphics Presentations
 - Internet Explorer 4.0 Internet Web Browser

- Prepare for impact of new CMS System. The Court System will soon implement a new Case Management System (CMS), first at the District Court of Appeal level, then at the Supreme Court level. The new CMS is a completely new system based on the 32-bit operating system environment; it will have a different interface and functionality. These two combinations will require significant training and support for the end user and stress the capabilities of ISS; programmers will continue to make enhancements to the system, depending upon the requirements and reactions of the end users, and several ISS staff will be required to handle user training and troubleshooting.

While the CMS analysis was not part of this consulting assignment, it will be an obvious impact on the end user. ISS and the Court System should approach this implementation cautiously and be prepared to assign the necessary personnel required to make this project a success.

- Desktop Database Application. There are several areas in the Court System where a desktop database application would be useful to the end user. Currently, this application is not part of the *Judge's Suite* and I do not recommend including it at this time. I do recommend

implementing a database application to those users requiring such a system. This would offload several applications currently programmed on the UNIX system. An example of such an application is the Attorney Certification database used in the Clerk's office.

Using a desktop database application will provide ISS and end users with a simple database system to program and modify, thus relieving ISS from extensive mainframe database modifications for these applications.

I recommend the Court System determine a software platform for the desktop database application (recommend reviewing Microsoft Access or Corel Paradox). This application will require an Application Specialist to handle the programming and support of such databases. A recommendation is made later in this report for an Application Specialist.

6.2 Hardware Recommendations

- Desktop Workstations. Desktop Computer systems should be the current industry standard, based upon recommendations from the Court Technology Commission and ISS. As the Court System upgrade hardware technology in the future, ISS and the Court Technology Commission should determine the most cost effective application at that time. I recommend the following specifications for the desktop hardware system:

Component	Minimum Specifications	Recommended Specifications
CPU	Pentium II, 233 MHz	Pentium II, 300 MHz
RAM Memory	32 MB SDRAM	64 MB SDRAM
Hard Disk Drive	2.0 GB	2.0 GB - 6.0 GB (user)
Floppy Disk Drive	3½", 1.44 MB	3½", 1.44 MB
CD-ROM System	12x Internal	24x Internal
Monitor	15" SVGA, 1024x768mm, .28mm dot pitch, 2 MB RAM	17" SVGA, 1024x768mm, .26mm dot pitch, 4 MB RAM
Sound	16-bit Sound Card	16-bit Sound Card
Desktop Operating System	Microsoft Windows '95	Microsoft Windows '95
Keyboard	101+	101+ "Natural" Keyboard (user)
Mouse	Mouse with Mouse Pad	Intelli-Mouse
Network Adapter	Ethernet 100/10	Ethernet 100/10

- File Server Recommendations. There are several different File Server configurations used in the Court System, based on the application. For purposes of this report, recommendations are made for the Central File Server and the Database File Server.

Central File Server Recommendations:

Pentium II/233 MHz (minimum), dual processor
128 MB RAM (determined by # applications & # users)
12.0 GB Hard Disk Space
3½", 1.44 MB Floppy Disk Drive
24x Internet CD-ROM Drive
Novell NetWare 4.11
Tape Backup Unit

Database Application File Server Recommendations:

Pentium II/233 MHz (minimum), dual processor
128 MB RAM (determined by # applications & # users)
12.0 GB Hard Disk Space
3½", 1.44 MB Floppy Disk Drive
24x Internet CD-ROM Drive
Microsoft Windows NT 4.0
Tape Backup Unit

6.3 Local Area Network Recommendations

- Upgrade to 100 Mbps. The current network topology used in the Court System is Ethernet 10BaseT (10 mbps). With the new CMS system coming online and with the end users moving to the 32-bit operating system environment, there will be a significant increase in network traffic across the LAN, thus slowing the response to the end user's desktop. I recommend the Court System upgrade to Ethernet 100BaseT, including cabling, hubs, routers, and servers. This will increase the bandwidth within the individual Court LAN and improve the end user system response.

6.4 Wide Area Network Recommendations

- Maintain WAN speed of T-1. The Court System currently use Frame Relay services operating at T-1 connection speeds. With the new CMS coming online, and with the end users moving to the 32-bit operating system environment, there will be a significant increase in network traffic across the WAN. The T-1 link should provide the necessary speed to allow end users to access all available information with minimal decrease in performance.

6.5 Training Recommendations

- Re-engineer Training. The Court System, as a whole, should re-engineer the current technology training system. While ISS provides initial basic training for applications used

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in the *Judge's Suite*, user demands, user sophistication, and user requirements have significantly increased over the past few years. The current training programs do not provide the end users with the training they require.

A recommendation is made later in this report for a Workflow Analysis in each of the Courts. Training Course Materials should be revised to reflect the needs of the end users based upon the input from the Workflow Analysis, the System Administrators, end users, and the Training Specialist.

Additional training should be provided on a periodic basis to include new ideas and applications as a result of end user input, help desk input, and System Administrator input. A diagram is included in the Appendix detailing the End User Training scenario.

- Training Specialist. ISS should hire a full-time Training Specialist to manage, implement, modify, and train all users on desktop applications used in the *Judge's Suite*. There are several applications used in the *Judge's Suite* and the Training Specialist must be proficient in each.
- Training Course Input. The training syllabus should be dynamic enough to provide for additional input as users become more "savvy" with the desktop applications. Input for the training courses should also come from the "help desk" function. In other words, if end users are asking the same application questions from the help desk, then those questions should be incorporated into the training courses.
- System Administrator Training. System Administrators, whose function is to provide "front line" assistance to end users must also be provided with training, more extensive than that provided to the end user. This training is usually considered advanced training and should be provided outside the Court System by a training company proficient in the software application(s).
- Application Specialist Training. A recommendation is made later in this report for an Application Specialist. The Application Specialist(s), whose function is to provide customized end-user support, must also be provided with training, above what is provided to the end user and the System Administrator. This training is usually provided at the software company level, providing the Application Specialist(s) with detailed knowledge about the application.
- ISS Training. ISS staff and database programmers have been provided with little, if any, training. Most training is on-the-job and often does not provide the programmer with the basic essentials of the software application. Newer, more sophisticated programs that utilize many programming tools require a greater demand for not only understanding the application, but also a greater demand for the available tools. ISS database programmers should also be provided with training in the applications with which they program.

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- The following table details the recommended initial training requirements *Judge's Suite* applications, and who should provide the training for the Court System:

Desktop Application	<i>Judge's Suite</i> User	System Administrator	ISS/Application Specialist
Microsoft Windows '95	ISS Training Specialist	Training Company	Software Vendor
Corel WordPerfect 8.0	ISS Training Specialist	Training Company	Software Vendor
Novell GroupWise 5.2	ISS Training Specialist	Training Company	Software Vendor
Westmate 6.2	ISS Training Specialist	Training Company	Software Vendor
West Premise 6.2	ISS Training Specialist	Training Company	Software Vendor
Corel Quattro Pro 8.0	ISS Training Specialist	Training Company	Software Vendor
Corel Presentations 8.0	ISS Training Specialist	Training Company	Software Vendor
Internet Explorer 4.0	ISS Training Specialist	Training Company	Software Vendor

6.6 Help Desk Recommendations

- Re-engineer the Help Desk Function. The Help Desk function should be re-engineered to better provide end user response and support *and* interface closer with the training and the System Administrator. The Help Desk, combined with the System Administrator's function, provides the end user support for all Court System users. However, while there is a System Administrator for each Court, there is only one Help Desk. Additional resources should be made available to the Help Desk, including application manuals and online support. With user support groups and Internet Web sites for user support (recommended later in this report), the Help Desk should have these resources at hand.
- Maintain Incident Log. The Help Desk, in conjunction with the System Administrator, should maintain a log of incidents. The log should be periodically reviewed by the Help Desk, System Administrators, and ISS in order to determine if similar problems persist among different users. The log will also provide valuable input to training.
- Develop Internal Support Web Site. An internal Web site (Intranet) should be developed to address Help Desk Frequently Asked Questions (FAQs). This site should be accessible by all end users throughout the Court System, providing immediate access to common questions and procedures. These are the same types of questions that are incorporated into the training courses. Often, the Help Desk is not available or the System Administrator is not available to ask a simple question; the end user can access this Web Page to determine if there is an answer to their question.

6.7 Other Recommendations

- Application Specialist. ISS should hire and train an Application Specialist for each application used in the *Judge's Suite* whose responsibilities include assisting the end user, the System Administrator, and ISS in that particular application. This may be one person, but more likely two. The responsibilities of the application specialist will include customizing desktop applications for the Court System to optimize end user efficiency. A sample job description for this position is included in the Appendix.
- WebMaster. ISS should hire a full-time WebMaster to handle all Internet-related technologies (Internet, Intranet, Extranet), Web site design, development, and maintenance for the Supreme Court. The WebMaster should also provide consulting and assistance to other District Courts of Appeal, State Courts, and Administration. The legal profession is moving toward incorporating Internet technologies in all facets of the profession. This trend is expected to continue as more applications and information are available on the Internet.
- Combine Two Supreme Court Web Sites. The Florida Supreme Court Internet Web Site and JOSHUA Internet Web Site should be combined and redesigned, since both sites provide information for the legal profession that originate from the Florida Supreme Court. This will help alleviate dual content providers and consolidate Web maintenance.
- Workflow Analysis. ISS, in conjunction with the respective System Administrator should perform a workflow analysis of the Florida Supreme Court desktop applications and the DCA desktop applications. In other words, to better understand the needs and requirements of the *Judge's Suite* users, ISS with the System Administrator should review the uses of the applications from the users' requirements. This exercise, when performed properly, will demonstrate the following:
 - How the end user uses the various desktop applications in the *Judge's Suite*;
 - The training requirements of the end user;
 - How to configure the end users' computer system for optimum efficiency;
 - Provide the end user with a better understanding of ISS and System Administrator responsibilities.

This is not a difficult or time-consuming task. I estimate approximately two days for each Court and consider this a project with immediate and significant benefits.

- Internal User Groups. The Court System should form Internal User Groups based upon the needs determined by the Workflow Analysis. These user groups should be an "open forum" to discuss mutual needs, problems and issues, and to share information. User groups are effective in sharing information amongst themselves, but also to establish a "voice" of common concerns shared with the System Administrator. Often, several users have the same idea of optimizing a particular function within an application. The System Administrator, chairing the user group meetings, can either address this idea or bring it to the attention of

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the Application Specialist and ISS. An example may be a word processing macro created by an end user that would be valuable to all users.

- Year 2000 Compliance. The Court System and ISS should implement a plan to ensure all computer hardware and software applications used in the Court System are Year 2000 Compliant. While this consulting engagement only addresses the desktop applications and hardware, this issue should be addressed for the entire Court System, including the database applications.
- Technology Project Request Procedure. The Court System should implement a technology project request procedure that requires both ISS and the requestor to establish project definitions, specifications, budgets, time lines, milestone checks, and sign off requirements for the project. These types of projects usually require time of either the Application Specialist or ISS and should be viewed as special projects. By implementing this project schedule and log, both ISS and the end user become accountable for the project, thus ensuring the usability and the responsibility for the project.
- Lower Court Technology. The Court System should establish a court liaison at the Trial Court level to help ensure that these courts have the knowledge and resources for future Court technology direction.
- Improve communications between ISS and Court System. ISS is responsible for a number of applications, software development, hardware and networking technologies. ISS should better "promote" the responsibilities and services provided to the Court System in order to establish a more favorable communication environment with end users. End users should realize the functions and responsibilities of ISS and utilize existing System Administrators and the Help Desk as the first line of support. A diagram is included in the Appendix that details the ISS Structure Interface with the Court System.
- ISS Test Platform. ISS should install a test platform consisting of the computer hardware and software currently used in the Court System desktop applications, specifically for the *Judge's Suite*. This test platform will provide ISS with a system to test all new software applications and any changes to existing applications and assist in troubleshooting problems without disturbing end users.
- Password Security. Password security is lax at the Court System level. This can become both a problem and an embarrassment to the Court System, should an outsider gain access either internally or externally to the system. The following are recommendations common in the industry for password security:
 - Implement an internal password security system that forces the end user to change his/her password on a periodic basis, at least once a quarter.

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- Mandate password changes when a System Administrator, ISS supervisor, or anyone with system-wide access leaves the Court System.
- Passwords should be between six and ten alphanumeric characters long, include symbols, mixtures of capitalization and lowercase letters.
- Those requiring dial-in access to the Court System should implement an additional security procedure, usually requiring a separate password in addition to the user login password.
- System Administrators. The Court System has established a position for a System Administrator for the Supreme Court and each of the five District Courts of Appeal. However, the duties of the System Administrator are often not clear, leaving room for internal communication problems and interface problems with end users and ISS. I recommend the following for System Administrators:
 - Each Court should have one full-time System Administrator for every 35-40 end users. This will help alleviate the problems of user request response times and provide more efficient end user support. It will also provide more time for System Administrators to work with end users more effectively, thus improving the end user productivity and efficiency.
 - System Administrators are the front line support for end users; end users should contact either the System Administrator or Help Desk for questions and not contact ISS directly. This will help alleviate the problems of communication breakdown between end users and ISS.
 - System Administrators work for the Chief Judge in each of the respective Courts. This will help alleviate problems with authority.
 - System Administrators should receive additional training. This will help improve the knowledge and experience of the System Administrator and help improve the end user support.

TECHNOLOGY ANALYSIS REPORT

- The following is a table detailing the recommended number of System Administrators (SA) for each Court:

Court	# Judges	Est. # Users	Current # SA	Recommended # SA
Supreme Court	7	70	1	2
1 st DCA	15	115	1	3
2 nd DCA	14	100	1	3
3 rd DCA	11	80	1	2
4 th DCA	12	100	1	3
5 th DCA	9	70	1	2
OSCA	-	120	0	3

- Ergonomic Recommendations. With the growing problems of repetitive strain injury (RSI), which include Carpal Tunnel Syndrome and Tendinitis, and other computer-related injuries with back and neck problems and eye strain, there has been considerable attention in the field of computer ergonomics and the computer workstation environment. It has been shown that with a few modifications to existing workstation environments, users will have fewer problems with computer-related injuries.

The eyes, neck, back, wrists, and legs are all affected by the computer workstation environment. The following are general guidelines to help end users create a more "ergonomically friendly" computing environment:

- The monitor should be in front of the end user (not to the side) at arm's length from the eyes. The top of the monitor should be level with the eyes, so the user looks down about 15 degrees.
- The keyboard should rest on the desktop, with arms parallel to the floor. A wrist rest will help hold the weight of the wrists while typing. The Microsoft Natural keyboard will allow users to keep their wrists straight, as opposed to angling in with a straight keyboard.
- The end user should have an adjustable chair, allowing for up & down adjustment to help keep legs parallel to the floor, and have a back adjustment to allow back support.
- Lighting should be so that the end user does not see a reflection on the computer monitor from either natural lighting (windows) or flourescent lighting (overhead).

- ISS Staffing. ISS is currently organized as follows:
 - Desktop Application - "PC Service & Support"
Staff - 9 persons
Responsibilities include: Data Communications Support & Installation, PC Support & Installation, File Server Support & Installation, Cabling, Routing, LAN/WAN Support & Installation, Voice Communications, Database Administration, and Internet Support & Installation.
 - Database Application - "Application Development & Support"
Staff - 7 persons
Responsibilities include: database development and enhancement, training and support of database systems.
 - Administration
Staff - 4 persons
Responsibilities include: supporting ISS functions, developing & administering contracts, technology planning and technology presentations.
 - Recommended New Positions for ISS:
Application Specialist(s)
Training Specialist
WebMaster
- ISS Salary Structures. Current salaries for ISS staff are below those for other state government agencies in comparable positions. I recommend the Court System and ISS review other government agencies for salaries of personnel in similar positions with similar responsibilities. The Court System should upgrade the salaries of ISS staff, System Administrators, Application Specialist, Training Specialist, and WebMaster to the medial level. This will help alleviate the problem of staff turnover; it will also help to attract and retain qualified technical personnel.

7.0 IMPLEMENTATION PLAN

The following implementation plan was discussed during my site visits to the Florida Supreme Court and the 1st District Court of Appeal.

7.1 Overview

Implementing technology is most successful with proper planning and coordination. Planning for downtime and productivity loss and coordinating training efforts during implementation are keys to a successful implementation. For all three years presented in the Implementation Plan, I recommend the following steps:

- Replace/upgrade network cabling, routers, hubs, connectors and associated hardware for the local area network.
- Replace/upgrade file server computer hardware.
- Replace/upgrade file server software.
- "Build" desktop workstations at *Judge's Suite* level, including hardware and standard software in a standard configuration.
- Replace desktop workstations, coordinate with end user training.
- Follow-up with end user configurations and customization.

7.2 First Year Implementation

During the first year of system-wide implementation, the Supreme Court computer systems will be upgraded. This upgrade will include both the computer hardware and the computer software. During the implementation, users should be trained on all applications.

7.3 Second Year Implementation

During the second year of system-wide implementation, three of the District Courts of Appeal will be upgraded. This upgrade will include both the computer hardware and the computer software. During the implementation, users should be trained on all applications.

7.4 Third Year Implementation

During the third year of system-wide implementation, the remaining two District Courts of Appeal and the Office of the State Courts Administrator will be upgraded. This upgrade will include both the computer hardware and the computer software. During the implementation, users should be trained on all applications.

8.0 OTHER ISSUES OF CONCERN

There are several issues of concern for the Court System that have been discussed during my site interviews. These are beyond the scope of the consulting engagement, but deserve mention for future considerations.

- **Case Management System Implementation**

A new case management system (CMS) will be installed early this year in conjunction with a planned hardware upgrade. However, the planned hardware upgrade does not provide for upgrading all Court System computers; the implementation plan (and accompanying budget) provides for upgrading only the Supreme Court computer systems in the first year.

The CMS is designed primarily for the District Courts of Appeal, and is designed to take advantage of the newer 32-bit desktop application. Using this newer software technology on the older computer hardware systems will probably cause several problems, including:

- interface problems with existing software applications;
- incompatibility problems between existing software applications;
- desktop computer system crashes or lockups;
- performance degradation at the desktop computer.

- **Lower Level Court Technologies**

The Trial Courts will eventually be required to interface information and data with the State Courts. I am not aware of any mechanism in place to assist these courts with a long-range plan or direction for technology. These courts rely on internal consulting through their respective counties and are driven by their systems technologies and county budgets, often a different hardware and software system than other counties and circuits. This leads to incompatibility between systems.

9.0 APPENDIX

- System Administrator Job Description
- Application Specialist Job Description
- End User Training Diagram
- ISS Structure Interface Diagram

System Administrator Job Description

- **Description**

The System Administrator is assigned to each Court System to be the front line end user support. The System Administrator reports to the Chief Judge in each court. The System Administrator interfaces with ISS for technical issues that cannot be addressed at the System Administrator level.

- **Duties and Responsibilities**

- Provide end users with computer hardware and software support, consulting, training, and answering application questions, troubleshooting problems. Log problems as deemed necessary to share with other System Administrators in the Court System.
- Assist end users in all aspects of using technology to improve the achievement levels required by the Court System.
- Install *Judge's Suite* desktop application software according to the standard configuration developed by ISS for the Court System.
- Configure user's desktop on individual basis. This includes individual desktops in the Windows environment and individual button bars in desktop applications.
- Help develop and support individual macros for end users. Maintain log of macros as deemed necessary to share with other System Administrators and end users in the Court System.
- Analyze end user needs and collaborate with ISS, the Desktop Application Specialist to develop or enhance technologies to meet those needs.
- Collaborate with ISS, the Desktop Application Specialist, and the Training Specialist to continue to enhance course materials in all Desktop Applications used in the *Judge's Suite*.
- Collaborate with ISS and the Desktop Application Specialist for application troubleshooting and issues that cannot be resolved by System Administrators.

Desktop Application Specialist Job Description

- **Description**

The Desktop Application Specialist is the expert's expert for those applications used in the *Judge's Suite*. The role of the Desktop Application Specialist is to assist the System Administrators, the end user, and ISS in developing new applications for existing software used in the *Judge's Suite*.

- **Duties and Responsibilities**

- Consult with end users, System Administrators, and ISS to determine user needs and requirements and develop new applications to improve end user efficiency.
- Occasional third level support to end users.
- Develop application specific configurations above and beyond the responsibilities of the System Administrator. This will include developing macros for word processing, spreadsheet, database, and Windows '95 systems and other applications used within the *Judge's Suite*.
- Work in the Information Systems & Services department of the Office of the State Courts Administrator.
- Work with the Training Specialist to assist in developing course materials and guidelines for end users.

**Office of the
State Courts Administrator**

End User Training

**Initial Training
Desktop Applications
Training Specialist (ISS)**

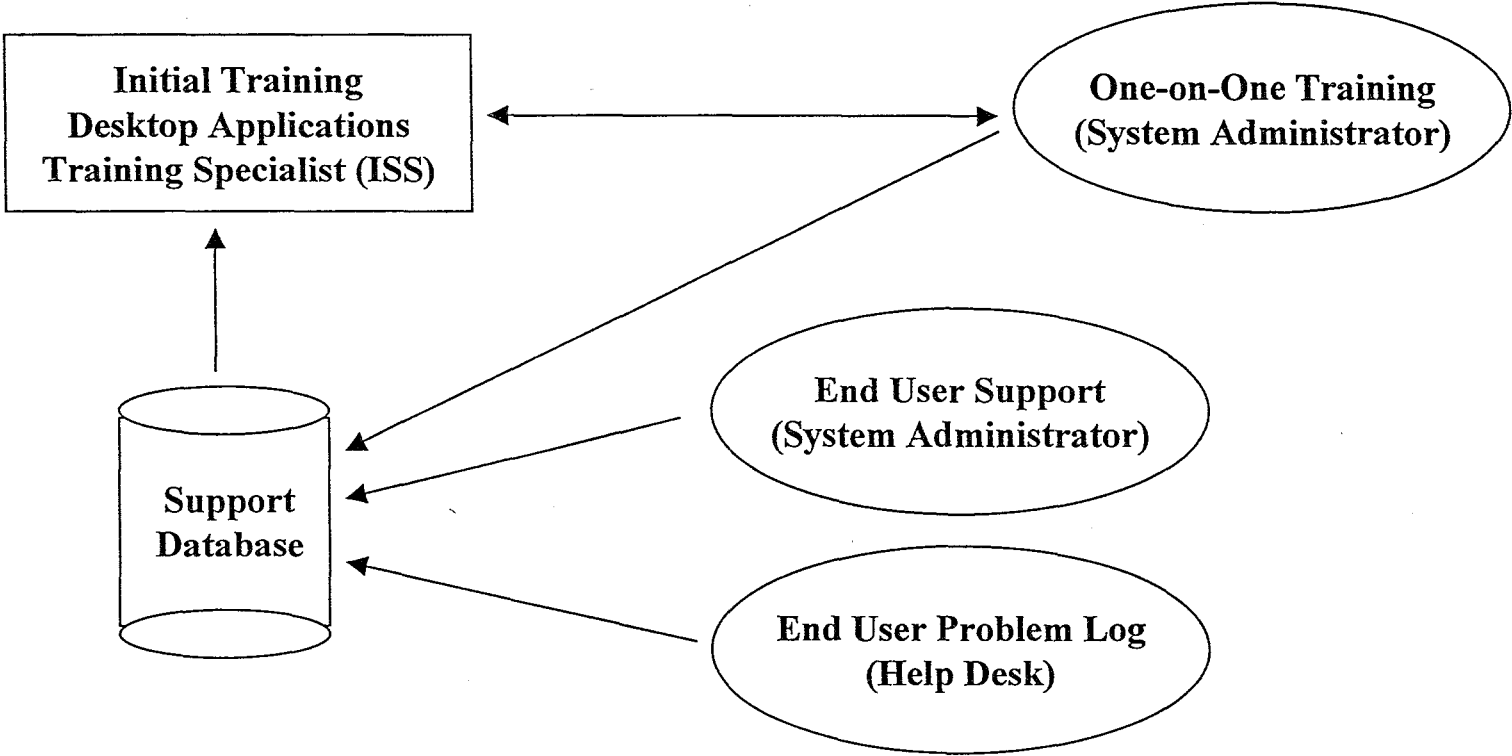
**One-on-One Training
(System Administrator)**



**End User Support
(System Administrator)**

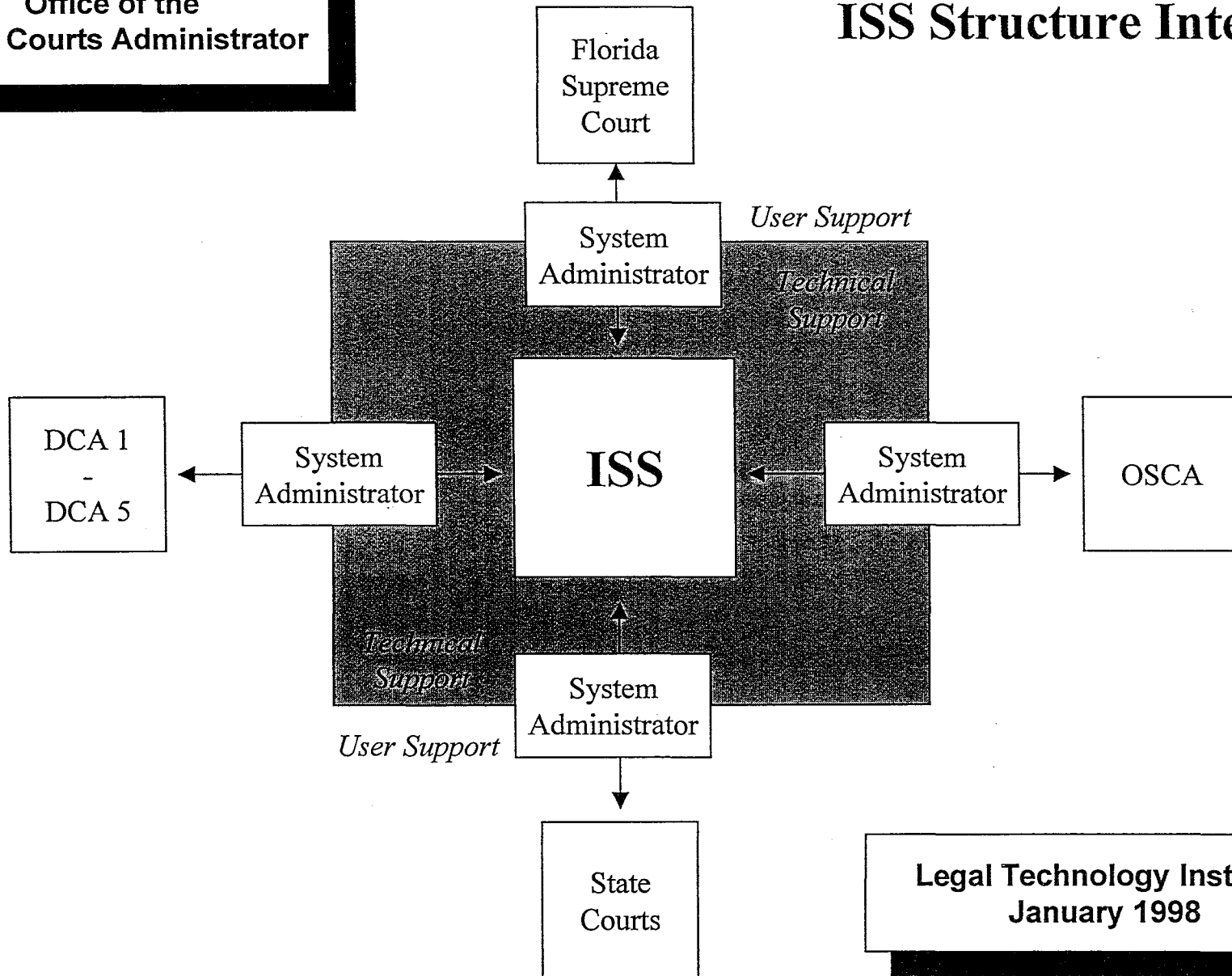
**End User Problem Log
(Help Desk)**

**Legal Technology Institute
January 1998**



Office of the
State Courts Administrator

ISS Structure Interface



MEMO

To: The Court
From: Overton, J.
Subject: ISS Response to Andy Adkin's Report
Date: February 25, 1998

Attached is the response of ISS to Andy Adkin's Report. ISS has duplicated Andy's report and inserted in bold print its comments to Andy's recommendations.

MEMORANDUM

TO: Justice Overton
FROM: Mike Love *ML*
DATE: February 24, 1998
SUBJECT: Response to Andy Adkins's Report

We have reviewed the report submitted by Mr. Andy Adkins and are pleased with the outcome. The report supports the technological direction that ISS currently has in place. We would like to address some issues raised by Mr. Adkins to provide additional information that will help the Court in further understanding our planning as well as support responsibilities for automation.

We are very supportive of the third party evaluation. The current ISS management staff has been providing service to the Court for ten (10) years, and we feel it is beneficial to get an outside review to provide a second opinion that all technical needs of the Court are being met appropriately.

The following responses provide clarification to the recommendations made in Mr. Adkins report. Our responses are in bold following Mr. Adkins recommendations or comments. We feel that we are already in step with the suggestions that Mr. Adkins alluded to in his report. With proper funding and staff all these objectives can and will be accomplished. If you have any questions or need additional information, feel free to contact me.

Attachments

cc: Ken Palmer

LEGAL TECHNOLOGY ANALYSIS REPORT
AND
THREE YEAR IMPLEMENTATION PLAN

PREPARED FOR:
FLORIDA SUPREME COURT
OFFICE OF THE STATE COURTS ADMINISTRATOR

PREPARED BY:
ANDREW Z. ADKINS III, DIRECTOR
LEGAL TECHNOLOGY INSTITUTE
UNIVERSITY OF FLORIDA COLLEGE OF LAW

JANUARY 1998

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1.0 EXECUTIVE SUMMARY

The Florida Supreme Court, District Courts of Appeal, and the Office of the State Courts Administrator will soon begin an upgrade to their existing automation technology. This upgrade will affect the way the Court System delivers services to the public. The Court System has retained the services of the Legal Technology Institute to review the computer technology needs and requirements of the administrative applications, and prepare a three-year plan to help plan the transition of the Court System into new technology.

There are many facets to a technology upgrade of this magnitude. Computer hardware upgrades are a matter of replacing existing computer systems. Computer software upgrades are more complex, both from a technical standpoint and from an end user standpoint – training and support become critical at this phase.

The Legal Technology Institute was retained to assist the Court System with the long-range plan. However, during the site interviews it became apparent that additional assistance was required to address the communication barriers between the Court System and Information Systems & Services. While recommendations and detailed specifications are provided for computer hardware and software, the majority of recommendations in this report provide solutions that address these communication issues.

User sophistication and computer use have grown significantly over the past few years. With this growth, users are pushing the envelope in their use of technology. Pushing the limits of technology also changes the supporting role requirements. This leads to the continuing wheel of technology use and end user support. While user sophistication and demands have grown, the level of support has not grown to keep up with demands. This puts a strain on the resources of the ISS staff, thereby causing end user frustrations.

Computer professionals are in high demand, especially those with both a technical background and communication skills. Most professionals in all industries use a desktop computer system with a variety of software applications and a variety of computer literacy. Many MIS departments, especially those in lower-paying government environments, spend time training their staff only to lose them to higher paying, less stressful, and more challenging technical environments.

Many of the desktop application problems discussed during site interviews are typical in the computer industry. Software is enhanced to meet the demands of the end users, but is often installed and implemented on older computer systems. In short, the Supreme Court finds itself using 1997 software technology on 1994 computer technology. Many problems that currently exist will disappear with new computer hardware upgrades.

There are many recommendations presented in this report, all designed to increase end user efficiency which in turn reflects on the level of services the Court System delivers to the public. Among these recommendations are:

- Computer desktop recommendations for new computer systems:

The recommendation made by Mr. Adkins further justifies the information provided to the Appellate Court Sub-Committee on two separate occasions. Once in March 1997 and again in August 1997. At the March meeting it was discussed that equipment needs to be upgraded to allow for the most powerful desktop equipment available. Attached are the materials (Attachment A) that were presented at both meetings that reflects the hardware recommendations and the funding needed to allow for the purchase of this equipment.

This recommendation is included in the courts FY 98-99 budget submission as instructed by the members of the Appellate Court Sub-Committee at the August meeting. This would allow for equipment and a Local Area Network (LAN) to be installed that would provide for components such as fast Ethernet switches. This would allow for 100 megabit communication between the hub in the wiring closet and server that would provide for a dedicated 10 megabit network capability for each workstation.

- Software application upgrades for the *Judge's Suite*:

At the March 1997 Appellate Court Sub-Committee meeting, it was discussed whether to utilize WordPerfect 7 or Microsoft Word 7 as the word processing software for the Court and DCA's. After an evaluation of both word processing software, it was determined that WordPerfect 7 should be used.

There were no advantages in Microsoft Word 7. The hardware that is in the courts is not powerful enough to run WordPerfect 7 base in ISS research. Therefore, the recommendation was to install WordPerfect 7 after the hardware upgrade was completed. (At that time WordPerfect 8 was unavailable but is the recommended version at this time).

- Upgrading the local area network infrastructure to increase response to the end user desktop:

This recommendation is included in the computer desktop recommendation.

- Re-engineer the current training program to include a new position, "Training Specialist" and to incorporate additional input from end users and System Administrators:

We recommended and included in the courts FY 98-99 budget submission that an additional training position be obtained. This position would be titled "Senior Court Technology Educational Coordinator". This position will allow ISS to continue to provide effective quality training and meet the increasing training needs of the users. For the past five years ISS has submitted a preliminary budget request that ranged from \$10,000 - \$50,000 to acquire additional training for ISS staff as well

as the system Administrators. To date, no additional funds have been made available for this utmost important requirement to ensure our staff is knowledgeable of the technological issues. This additional position is contingent upon approval of the budget.

- Perform a "Workflow Analysis" to increase awareness of end user requirements and the role of ISS:

ISS is aware that this analysis is a necessity to be cognizant of the end users' needs. Currently, these analyses are being performed in each court clerks' office, to determine the best business practice. This information will provide us with the knowledge to write the most efficient Case Management System that will be installed in the DCAs and Supreme Court. We will continue these analyses as suggested in Mr. Adkins report.

ISS performed a workflow analysis as far as document movement for central staff in the Supreme Court as well as Justice Shaw's suite and provided additional software applications to support their needs.

Prior to upgrading the Court these analyses will be completed in the judges suites, Marshall office's and libraries to ensure best business practices are used.

- Re-engineer the current help desk function to include a system log of incidents, increase communication between end user, System Administrator, and the Training Specialist and incorporate common questions to an internal Web site:

Help Desk Functions - At the Appellate Court Sub-Committee held in March 1997, we presented a help desk software package "HEAT". Attached is a summary of what was presented and what "HEAT" will accomplish (Attachment B). This system has been operational since 1996 but the data is most likely not complete since the System Administrators are busy and are remiss in entering the information. Once additional positions are acquired, the information will be entered into the "HEAT" system accordingly and each incident will be tracked. Also attached are reports that have been generated from the "HEAT" system (Attachment C).

- Hire an "Application Specialist" to consult with end users on requirements and create application specific enhancements:

We recommended and included in the courts FY 98-99 budget submission for a "Systems Project Administrator". This position will identify, develop, and assist in the implementation of critical information needs of the Court, DCAs and Trial Courts. This position would consult with the end-user and be able to develop custom code. This position will perform analyses in the trial courts to assist them in creating a case management tool specific to a judge's requirements. This additional position is contingent upon approval of the budget.

- Hire a "WebMaster" to re-engineer, consolidate, and maintain the two individual Web sites, and to create new Intranet sites as required, internal to the Court System:

We are in total agreement that the Joshua site and Supreme Court site need to be consolidated. The support to maintain the Joshua site has been limited due to inadequate support staff. We recommended and included in the courts FY 98-99 budget submission for a "Distributed System Network Specialist" position. This position would be a coordination point to provide for standardization of the greater than 140 home pages in support of courts/clerks. More, importantly, the implementation of electronic filing of court documents will mandate specialized staff to ensure reliability in the processing of documents via the Internet. A position was also included in the Supreme Court budget for the Library that will provide additional Internet support. These additional positions are contingent upon approval of the budget.

- Review ISS salary structures and upgrade to reflect similar positions and responsibilities in other state government agencies:

This issue is covered under a memorandum being submitted to Ken Palmer.

These recommendations will assist the transition of the Court System into the new computer technology upgrades by addressing both the technical and the human factor needs discussed during the site visits. They should be reviewed and discussed openly as to the advantages and disadvantages of each. Time lines should be prepared to implement the recommendations in a timely fashion, to help coordinate the computer upgrade and new Case Management System installation.

Most of these guidelines and recommendations were discussed during the site interviews. Many of the suggestions came from within the Court System and, in my opinion, reflect the commitment of all end users and support staff to become more efficient in their computer use, thereby providing better service to the Court System and to the general public in delivery of services.

2.0 INTRODUCTION

2.1 Consulting Engagement Mission

The purpose of this professional consulting engagement is to prepare a three-year plan for upgrading and implementing technology into the administration of the Supreme Court of the State of Florida, the five District Courts of Appeal, and the Office of the State Courts Administrator. Included in this plan are detailed specifications for computer software and hardware and recommendations to improve the operational efficiency of the Court System.

To accomplish this mission, I met with Supreme Court Justices, District Court of Appeal Judges, Information Systems Services (ISS) staff, System Administrators, Clerks, Judicial Assistants, Staff Attorneys, and Court Administrators. The purpose of these meetings was to gather necessary information about needs and requirements for the entire Court System.

2.2 About the Legal Technology Institute

The Legal Technology Institute at the University of Florida College of Law was established in October 1997 with a mission "to provide an innovative forum for making a positive impact and improving technology in the legal profession." Our strategic goals are to:

- Provide independent legal technology consulting services
- Provide legal technology training and resources to the University of Florida Law School
- Provide Internet consulting services and Web Site Design and Development Services to the legal profession
- Provide legal technology training and resources to the legal profession
- Establish a presence as a major legal technology information resource center
- Establish a reputable legal technology innovation & research center

3.0 CURRENT TECHNOLOGY ENVIRONMENT

The following information was relayed to me during my site visits to the Florida Supreme Court and the 1st District Court of Appeal. I also received additional information in the form of reports, diagrams, memos, and subsequent telephone conversations and electronic mail.

3.1 Overview

The technology platform model used by the Court System is based upon the *Judge's Suite*, which includes computer software and computer hardware used by the Judge and his/her staff. This model provides the basis for establishing computer software and hardware guidelines and is used by the Florida Supreme Court and the five District Courts of Appeal.

3.2 Software Platforms

Software currently specified in the *Judge's Suite* includes the following applications:

- Microsoft Windows '95 Desktop Operating System
- WordPerfect for Windows 6.1 Word Processing
- WordPerfect Office 4.0 Electronic Mail, Calendaring, To-do
- Westmate 6.2 Online Research
- West Premise 6.2 CD-ROM Research
- Quattro Pro Spreadsheet
- WordPerfect Presentations Graphics Presentations
- Internet Explorer 3.0 Internet Web Browser

3.3 Hardware Platforms

Hardware currently specified for the *Judge's Suite* existing computers include the following:

- '486/100 MHZ Computer System
- 16 MB RAM Memory
- 200 MB Hard Disk Drive
- 15" Super VGA Color Monitor
- Mouse

3.4 Local Area Network

All desktop computer systems are connected to a centralized file server (one within each court), using standard Ethernet 10 mbps network topology. Additional equipment connected to the individual Court LAN includes a CD-ROM server, Case Management System server, Fax server, Mail server, and Dial-in server.

3.5 Wide Area Network

All courts are connected through a Wide Area Network system using Frame Relay, currently using a T-1 connection.

3.6 Library Resources

TECHNOLOGY ANALYSIS REPORT

The Court System Library utilizes an internal LAN, not connected to the main LAN. This is because the library is accessible by the general public and the applications used in the library are isolated from the general Court System. Several staff desktop workstations are connected to the Court System LAN, but these are used by library staff and are not available to the general public.

Included in the Library resources is a standalone CD-ROM tower. The Library recently purchased a new serials catalog system (UNIX-based) to be used internal to the Library (no outside connections). The Library uses the same desktop applications as the *Judge's Suite*.

The Library is also responsible for providing content and technical assistance to the Supreme Court Internet Web site.

4.0 CURRENT PROBLEMS AND ISSUES

The following issues were discussed during my site visits to the Florida Supreme Court and the 1st District Court of Appeal and during subsequent conversations. While there are probably other issues, these were the ones the Court System thought most urgent to discuss. Included with the discussion of the problem are possible solutions. These problems and issues are not presented in any particular priority or order.

4.1 Computer Desktop Application Technology Issues

- Electronic Mail. Several issues concerning electronic mail were conveyed to me during my site visit. These include the following:
 - “Public/Private” electronic mail system requested by the Supreme Court. The Novell GroupWise application allows for custom programming. However, ISS and Novell have determined there is a known compatibility problem within the GroupWise software that causes problems when modifying the program, such as the “Public/Private” customization. This may explain several of the problems experienced by end users. According to Novell, this issue should be resolved with the next GroupWise release, currently scheduled for April 1998.
 - Screen sizing of the Electronic Mail on different end users’ computer monitors does not allow some users to fully access attachments to electronic mail messages. The screen sizing seems to be a direct result of the special “Public/Private” customization. This problem could be resolved now by removing the “Public/Private” customization and installing the Novell GroupWise without program modifications. Otherwise, the problem should be resolved with the April release of Novell GroupWise.

Arrangements had been made with Novell to perform the customization under GroupWise that would continue to provide Public/Private E-mail that the courts currently utilize. The experts within Novell were unable to bring forward the functionality as required by the Court. It is inherent within the current GroupWise product that the modification to any screens brings the inability to manage the screen sizes upon receipt of E-mail. This is a known problem within the product. Assurances from Guy Evans, the VP of Groupwise that the next release will resolve these known problems has been given.

- Audio Mail notification. Novell GroupWise uses a different sound technology than previous versions of WordPerfect Office. The older computer systems were designed using an internal speaker, but the newer Novell GroupWise is designed to take advantage of the newer sound technologies involving audio wave tables and sound cards. This problem should be resolved when newer computers are purchased.

We recommended and included in the courts FY 98-99 budget submission, funds to upgrade computer systems for the Supreme Court and First, Second and Third DCAs. If the budget issue is approved

the money will be appropriated by July 1998. Funds will be included in the FY 99/2000 budget issue to upgrade the Fourth and Fifth DCAs along with OSCA. With the approval of this budget issue and the appropriation of the funds, the upgrade will be completed by December 1999.

- Complex Word Processing Macros. Several complex word processing macros have been developed by Mr. Craig Waters using the WordPerfect Macro Programming language (WordPerfect for Windows 6.1). ISS is not familiar with either the developed macros or the WordPerfect Macro Programming language and thus cannot support these macros. This will also present a further problem in the fact that the macros are programmed in a different WordPerfect version than is recommended. Mr. Waters cannot take the necessary time to convert or support these macros in the new Corel WordPerfect environment. Users are frustrated by not having sufficient support. This problem can be resolved by hiring and training an Application Specialist (recommended later in this report), knowledgeable and experienced in the WordPerfect Macro Programming language.

The amount of work placed on ISS is preventing the opportunity to respond to such items as Complex Word Processing Macros even though there has always been one position within ISS dedicated to the Wordperfect Macro language. Jennie Sole perfected the utilization of Public/Private E-mail using the macro language. Her knowledge in this area would be considered an expert. ISS has hired Susannah Kraft who has a good understanding of macro language. She recently has been to training on the macro language and is in the process of ensuring there will be a smooth transition in moving the macro's from version 6 to version 8.

The only problem with the macro's created by Mr. Waters is determining where they are located within each of the applications.

- System Administrators. Each Court (Supreme Court, DCAs) has a System Administrator to handle end user questions and interface between the Court and ISS. The System Administrator, at times, is overwhelmed with end user requests and troubleshooting problems, leaving a period of time from a request to response. System Administrators have had minimum training in the desktop applications, used in the *Judge's Suite*. This problem can be resolved by providing the System Administrators with additional training, by staffing this support role with additional personnel, and performing a workflow analysis (recommended later in this report). The current recommended ratios for support staff are one full-time technical support position for every 35-40 end users.
- End-User Training. Training is minimal for new users and new software applications. Some users don't feel they receive the training they need, nor is there follow up additional training. The Court System does not have a full-time Training Specialist dedicated to end-user training and course development. A recommendation is made later in this report for a Training Specialist.

We recommended and included in the courts FY 98-99 budget submission that an additional training position be obtained. This position would be titled "Senior Court Technology Educational Coordinator". This position will allow ISS to continue to provide effective quality training and meet the increasing training needs of the users. For the past five years ISS has submitted a preliminary budget request that ranged from \$10,000 - \$50,000 to acquire additional training for ISS staff as well as the system administrators. To date, no additional funds have been made available for this upmost important requirement to ensure our staff is knowledgeable of the technological issues. This additional position is contingent upon approval of the budget.

4.2 Information Systems & Services Issues

- Turnover in ISS staff. ISS reports a 60% turnover in staff over the past two years. There are many possible reasons for this, many of which are common throughout the industry. These include computer professional salaries, work environment stress, lack of technology challenges, and personality conflicts.
- ISS training. Training for ISS staff is minimal. Most ISS training is handled on-the-job, which can lead to frustrations on both the end user and the ISS staff.

ISS has asked for several years but has not received additional funding for training, therefore limits the amount of training staff can attend. The attached list (Attachment D) is a list of training that has been provided to the ISS staff to ensure they are capable of performing their job duties.

- Communications Issues. There are several issues concerning the communications between ISS and Court System staff. These include end user requests for assistance in troubleshooting problems, special projects and deadlines, and personality conflicts.

ISS handles a multitude of projects in addition to providing end user support. Often, the end user may not know the extent to the number of projects, nor the number of ISS staff working on these projects, which leads to a communication breakdown.

It must be stressed that these issues are common throughout the industry, especially in government agencies. There are two "institutions" here: one is the Judicial system which has a history of conservatism and serving the public, with little emphasis on using technology. The other is the Information Systems group, which has a legacy of providing mainframe-type application support to the Court System.

The last sentence of this paragraph is an inaccurate assumption to indicate that there is a legacy of providing mainframe-type support. Only 10% of employees within the ISS application development section have ever written programs for a mainframe system. Our efforts since the inception of automation in the Court system have been to develop a successful distributed client server environment.

The past few years have totally changed the way the Court System operates and serve the public. Judges now draft their own opinions using desktop computer systems, but still require the mainframe database system applications. All persons involved in the Judicial process use desktop application technologies. Yet, while there has been phenomenal growth in the use of technology and the sophistication of end users, there has been very little growth in the support of those users. Recommendations are provided later in this report which address these issues and concerns.

4.3 Internet Web Site Issues

- Two separate Supreme Court Internet Web Sites. Currently, there are two separate Internet Web sites provided by the Florida Supreme Court. The initial sites were designed by two different departments for two different applications. However, over the past year, the sites have grown with additional content, some of which may be duplicated on both sites. This may lead to concerns about who within the Court System provides content and also who within the Court System is responsible for placing the content on the site. A recommendation is made later in this report addressing this issue.
- Internet Web Site Maintenance. With two separate Internet Web sites providing similar information, there exists a problem with maintaining the individual Web sites. Web site maintenance not only includes the software programming but also must include gathering the necessary content to be placed on the Site. At times, the content on the Site may be outdated. A recommendation is made later in this report addressing this issue.

The support to maintain the Joshua site has been limited due to inadequate support staff. We recommended and included in the courts FY 98-99 budget submission for a "Distributed System Network Specialist" position. This position would be responsible to maintain the web site and to ensure that it is updated accordingly. The position would also be a coordination point to provide for standardization of the greater than 140 home pages in support of courts/clerks.

5.0 GOALS AND OBJECTIVES

The following goals and objectives were relayed to me during my site visits to the Florida Supreme Court and the 1st District Court of Appeal. These are not necessarily recommendations, but are included here to provide discussion and possible technology direction. These goals and objectives are not presented in any particular priority or order.

- Access individual clerks' systems in each county. Several justices mentioned they would like the capability to access individual clerk's computer systems for gathering information and data on specific court assignments. The technical concern here is while the capability may exist at the Supreme Court level to dial out, the capability at the State Court level for dial in may not be available. A second concern is the compatibility between different court system technologies. This particular objective should be reviewed and evaluated at the Court Technology Commission level and direction provided that would assist in developing this capability.

For many years ISS has been attempting to supply the trial courts with electronic access. In 1987 ISS began providing connectivity access to the trial courts to have electronic access. Twenty-seven were connected before funding caused the project to cease.

To date, the 27 counties are still connected and using the electronic access thru facilities provided by Department of Management Services. There is also a on-going project with the Florida Department of Law Enforcement meet the needs of the courts. There are approximately ten counties currently utilizing this capability.

- Printing copies of opinions. The process of drafting opinions and circulating prior to publishing requires many copies to be made of the opinion and distributed to various attorneys and judges in the office. A question was raised about using a high speed printer instead of a copy machine to make the copies. While this may seem economically feasible, there is an issue of security that should be reviewed.

Currently, the opinions are printed locally and copied at a central location; however, the original draft is handled by one person, usually within the Judge's office. Printing the opinion at a central location may pose a security concern if no one from the originating office is handling the original draft.

ISS had recommended that no copies be made but the internal distribution be done electronically. It was recommended that if copies are needed it be done by the recipient and not the sender.

- Electronic distribution of Supreme Court opinions. Published opinions are distributed using several different methods. These include a paper copy of the opinion sent out to a list of about seventy-five subscribers, including librarians, chief judges, and the press corps. Other methods include electronic transfer to publishers and the University of Florida College of Law to be

placed onto the Supreme Court Opinion Internet Web Site. A question was raised about distributing the opinions to these subscribers in electronic format.

Technically, there is no reason why this cannot be done electronically. The main issue is which electronic format(s) should be used. The end user typically specifies the delivered format, but there will probably be many different requests. The Court System should determine what format to be used and offer the service to end users. By sending the information electronically (electronic mail, floppy diskette, FTP) the Court System could save considerable dollars in labor, paper, and postage costs. There may be other issues (legal and ethical) that need to be reviewed prior to making this decision.

We concur and have previously made these recommendations.

- Desktop Faxing. Several users indicated the need for faxing documents from their desktop. This could save considerable time when faxing multiple documents and multiple pages to other locations. However, in an office environment of this size, complexity, and sensitivity, desktop faxing should be further evaluated before implementation. This evaluation should cover the need, policies for fax "phone books" and communication considerations.

Upon the initial receipt of network facilities a fax server was included. However, based on the lack of use the faxing capability from the desktop was not maintained. The faxing requirements by the Court will be readdressed before the upgrade.

- Improve communications between end users and ISS. Most of my time spent on site conducting interviews consisted of discussing concerns between the end users and ISS staff. While there are obvious communication concerns, many suggestions were provided for improvements. I have incorporated many of these suggestions into recommendations presented later in this report.

It is my opinion that both end users and ISS staff wish to resolve all conflicts in order to better serve and support the public, the main mission of the Court System. To accomplish this, there are several "re-engineering" recommendations made later in this report.

6.0 RECOMMENDATIONS

6.1 Software Recommendations

- Continue utilizing the Judge's Suite Model. I recommend the Court System continue to base the desktop applications on the *Judge's Suite* model. This model has been in place for a period of time and includes the majority of software applications used in the *Judge's Suite*. The technology philosophy of the Court System is based upon this model.

- Implement 32-bit software. I recommend the Court System implement the latest 32-bit Windows versions of the software applications used in the *Judge's Suite*. Currently, the industry standard desktop operating system platform is Microsoft Windows '95. During the next three years of software implementation, when the "standard" desktop operating system platform is upgraded, then I recommend the Court System first review and evaluate the upgrade path to the latest Windows versions of those applications at that time. The following are the recommended desktop software applications for the *Judge's Suite*.
 - Microsoft Windows '95 Desktop Operating System
 - Corel WordPerfect 8.0 Word Processing
 - Novell GroupWise 5.2 Electronic Mail, Calendaring, To-do
 - Westmate 6.2 Online Research
 - West Premise 6.2 CD-ROM Research
 - Corel Quattro Pro 8.0 Spreadsheet
 - Corel Presentations 8.0 Graphics Presentations
 - Internet Explorer 4.0 Internet Web Browser

- Prepare for impact of new CMS System. The Court System will soon implement a new Case Management System (CMS), first at the District Court of Appeal level, then at the Supreme Court level. The new CMS is a completely new system based on the 32-bit operating system environment; it will have a different interface and functionality. These two combinations will require significant training and support for the end user and stress the capabilities of ISS; programmers will continue to make enhancements to the system, depending upon the requirements and reactions of the end users, and several ISS staff will be required to handle user training and troubleshooting.

While the CMS analysis was not part of this consulting assignment, it will be an obvious impact on the end user. ISS and the Court System should approach this implementation cautiously and be prepared to assign the necessary personnel required to make this project a success.

ISS is cognizant that 32-bit software needs to be installed. ISS also has a full understanding of the impact the new CMS system will have. The main reason ISS is preparing for the upgrade of equipment is to deal with these two issues. Again, the upgrade issue has been included in the FY 98/99 budget and will be included in the 99/2000 budget.

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- Desktop Database Application. There are several areas in the Court System where a desktop database application would be useful to the end user. Currently, this application is not part of the *Judge's Suite* and I do not recommend including it at this time. I do recommend implementing a database application to those users requiring such a system. This would off-load several applications currently programmed on the UNIX system. An example of such an application is the Attorney Certification database used in the Clerk's office.

Using a desktop database application will provide ISS and end users with a simple database system to program and modify, thus relieving ISS from extensive mainframe database modifications for these applications.

In 1994, ISS migrated the JDC mainframe system to a Client Server environment. For the past four years, the Client Server system has been utilized thus eliminating the mainframe type application support.

I recommend the Court System determine a software platform for the desktop database application (recommend reviewing Microsoft Access or Corel Paradox). This application will require an Application Specialist to handle the programming and support of such databases. A recommendation is made later in this report for an Application Specialist.

We recommended and included in the courts FY 98-99 budget submission for a "Systems Project Administrator". This position will identify, develop, and assist in the implementation of critical information needs of the Court, DCAs and Trial Courts. This position would consult with the end-user and be able to develop custom code. This additional position is contingent upon approval of the budget.

6.2 Hardware Recommendations

- Desktop Workstations. Desktop Computer systems should be the current industry standard, based upon recommendations from the Court Technology Commission and ISS. As the Court System upgrade hardware technology in the future, ISS and the Court Technology Commission should determine the most cost effective application at that time. I recommend the following specifications for the desktop hardware system:

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Component	Minimum Specifications	Recommended Specifications
CPU	Pentium II, 233 MHZ	Pentium II, 300 MHZ
RAM Memory	32 MB SDRAM	64 MB SDRAM
Hard Disk Drive	2.0 GB	2.0 GB - 6.0 GB (user)
Floppy Disk Drive	3½", 1.44 MB	3½", 1.44 MB
CD-ROM System	12x Internal	24x Internal
Monitor	15" SVGA, 1024x768mm, .28mm dot pitch, 2 MB RAM	17" SVGA, 1024x768mm, .26mm dot pitch, 4 MB RAM
Sound	16-bit Sound Card	16-bit Sound Card
Desktop Operating System	Microsoft Windows '95	Microsoft Windows '95
Keyboard	101+	101+ "Natural" Keyboard (user)
Mouse	Mouse with Mouse Pad	Intelli-Mouse
Network Adapter	Ethernet 100/10	Ethernet 100/10

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- File Server Recommendations. There are several different File Server configurations used in the Court System, based on the application. For purposes of this report, recommendations are made for the Central File Server and the Database File Server.

Central File Server Recommendations:

Pentium II/233 MHZ (minimum), dual processor
128 MB RAM (determined by # applications & # users)
12.0 GB Hard Disk Space
3½", 1.44 MB Floppy Disk Drive
24x Internet CD-ROM Drive
Novell NetWare 4.11
Tape Backup Unit

Database Application File Server Recommendations:

Pentium II/233 MHZ (minimum), dual processor
128 MB RAM (determined by # applications & # users)
12.0 GB Hard Disk Space
3½", 1.44 MB Floppy Disk Drive
24x Internet CD-ROM Drive
Microsoft Windows NT 4.0
Tape Backup Unit

6.3 Local Area Network Recommendations

- Upgrade to 100 Mbps. The current network topology used in the Court System is Ethernet 10BaseT (10 mbps). With the new CMS system coming online and with the end users moving to the 32-bit operating system environment, there will be a significant increase in network traffic across the LAN, thus slowing the response to the end user's desktop. I recommend the Court System upgrade to Ethernet 100BaseT, including cabling, hubs, routers, and servers. This will increase the bandwidth within the individual Court LAN and improve the end user system response.

ISS has recommended and included in the FY 98/99 budget that money be appropriated to upgrade the network backbone servers to fast ethernet switches. These will be installed with the upgrade of desktops

6.4 Wide Area Network Recommendations

- Maintain WAN speed of T-1. The Court System currently use Frame Relay services operating at T-1 connection speeds. With the new CMS coming online, and with the end users moving to the 32-bit operating system environment, there will be a significant increase in network traffic across the WAN. The T-1 link should provide the necessary speed to allow end users to access all available information with minimal decrease in performance.

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ISS concurs with this recommendation.

6.5 Training Recommendations

- Re-engineer Training. The Court System, as a whole, should re-engineer the current technology training system. While ISS provides initial basic training for applications used in the *Judge's Suite*, user demands, user sophistication, and user requirements have significantly increased over the past few years. The current training programs do not provide the end users with the training they require.

A recommendation is made later in this report for a Workflow Analysis in each of the Courts. Training Course Materials should be revised to reflect the needs of the end users based upon the input from the Workflow Analysis, the System Administrators, end users, and the Training Specialist.

ISS is aware that this analysis is a necessity to be cognizance of the end users needs. Currently, these analyses are being performed in each DCA court clerks office to determined the best business practice. This information will provide us with the knowledge to write the most efficient Case Management System that will be installed in the DCAs and Supreme Court. We will continue these analyses as suggested in Mr. Adkins report.

Additional training should be provided on a periodic basis to include new ideas and applications as a result of end user input, help desk input, and System Administrator input. A diagram is included in the Appendix detailing the End User Training scenario.

- Training Specialist. ISS should hire a full-time Training Specialist to manage, implement, modify, and train all users on desktop applications used in the *Judge's Suite*. There are several applications used in the *Judge's Suite* and the Training Specialist must be proficient in each.
- Training Course Input. The training syllabus should be dynamic enough to provide for additional input as users become more "savvy" with the desktop applications. Input for the training courses should also come from the "help desk" function. In other words, if end users are asking the same application questions from the help desk, then those questions should be incorporated into the training courses.
- System Administrator Training. System Administrators, whose function is to provide "front line" assistance to end users must also be provided with training, more extensive than that provided to the end user. This training is usually considered advanced training and should be provided outside the Court System by a training company proficient in the software application(s).
- Application Specialist Training. A recommendation is made later in this report for an Application Specialist. The Application Specialist(s), whose function is to provide customized end-user support, must also be provided with training, above what is provided to the end user

and the System Administrator. This training is usually provided at the software company level, providing the Application Specialist(s) with detailed knowledge about the application.

- ISS Training. ISS staff and database programmers have been provided with little, if any, training. Most training is on-the-job and often does not provide the programmer with the basic essentials of the software application. Newer, more sophisticated programs that utilize many programming tools require a greater demand for not only understanding the application, but also a greater demand for the available tools. ISS database programmers should also be provided with training in the applications with which they program.
- The following table details the recommended initial training requirements *Judge's Suite* applications, and who should provide the training for the Court System:

Desktop Application	Judge's Suite User	System Administrator	ISS/Application Specialist
Microsoft Windows '95	ISS Training Specialist	Training Company	Software Vendor
Corel WordPerfect 8.0	ISS Training Specialist	Training Company	Software Vendor
Novell GroupWise 5.2	ISS Training Specialist	Training Company	Software Vendor
Westmate 6.2	ISS Training Specialist	Training Company	Software Vendor
West Premise 6.2	ISS Training Specialist	Training Company	Software Vendor
Corel Quattro Pro 8.0	ISS Training Specialist	Training Company	Software Vendor
Corel Presentations 8.0	ISS Training Specialist	Training Company	Software Vendor
Internet Explorer 4.0	ISS Training Specialist	Training Company	Software Vendor

6.6 Help Desk Recommendations

- Re-engineer the Help Desk Function. The Help Desk function should be re-engineered to better provide end user response and support *and* interface closer with the training and the System Administrator. The Help Desk, combined with the System Administrator's function, provides the end user support for all Court System users. However, while there is a System Administrator for each Court, there is only one Help Desk. Additional resources should be made available to the Help Desk, including application manuals and online support. With user support groups and Internet Web sites for user support (recommended later in this report), the Help Desk should have these resources at hand.

We concur with this statement.

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- Maintain Incident Log. The Help Desk, in conjunction with the System Administrator, should maintain a log of incidents. The log should be periodically reviewed by the Help Desk, System Administrators, and ISS in order to determine if similar problems persist among different users. The log will also provide valuable input to training.

There is a "Heat " system in place that has been operational since 1996. The data is most likely not complete since the System Administrators are busy and remiss in entering the information. Once additional positions are acquired, the information will be entered into the "HEAT" system accordingly and each incident will be tracked.

- Develop Internal Support Web Site. An internal Web site (Intranet) should be developed to address Help Desk Frequently Asked Questions (FAQs). This site should be accessible by all end users throughout the Court System, providing immediate access to common questions and procedures. These are the same types of questions that are incorporated into the training courses. Often, the Help Desk is not available or the System Administrator is not available to ask a simple question; the end user can access this Web Page to determine if there is an answer to their question.

ISS began last summer developing an Intranet site to further provide services such as FAQ's and policy and procedures. The foundation of these services can be found at ISS.flcourts.org. Further development is continuing and hopefully within the near future this site can be advertised.

6.7 Other Recommendations

- Application Specialist. ISS should hire and train an Application Specialist for each application used in the *Judge's Suite* whose responsibilities include assisting the end user, the System Administrator, and ISS in that particular application. This may be one person, but more likely two. The responsibilities of the application specialist will include customizing desktop applications for the Court System to optimize end user efficiency. A sample job description for this position is included in the Appendix.
- WebMaster. ISS should hire a full-time WebMaster to handle all Internet-related technologies (Internet, Intranet, Extranet), Web site design, development, and maintenance for the Supreme Court. The WebMaster should also provide consulting and assistance to other District Courts of Appeal, State Courts, and Administration. The legal profession is moving toward incorporating Internet technologies in all facets of the profession. This trend is expected to continue as more applications and information are available on the Internet.
- Combine Two Supreme Court Web Sites. The Florida Supreme Court Internet Web Site and JOSHUA Internet Web Site should be combined and redesigned, since both sites provide information for the legal profession that originate from the Florida Supreme Court. This will help alleviate dual content providers and consolidate Web maintenance.
- Workflow Analysis. ISS, in conjunction with the respective System Administrator should perform a workflow analysis of the Florida Supreme Court desktop applications and the DCA desktop applications. In other words, to better understand the needs and requirements of the *Judge's Suite* users, ISS with the System Administrator should review the uses of the applications from the users' requirements. This exercise, when performed properly, will demonstrate the following:
 - How the end user uses the various desktop applications in the *Judge's Suite*;
 - The training requirements of the end user;
 - How to configure the end users' computer system for optimum efficiency;
 - Provide the end user with a better understanding of ISS and System Administrator responsibilities.

This is not a difficult or time-consuming task. I estimate approximately two days for each Court and consider this a project with immediate and significant benefits.

The Application Specialist, WebMaster and the recommendation for Combining the Two Supreme Court WebSites and Workflow Analysis have all been addressed in the Executive Summary. Please refer to that section for the information.

- Internal User Groups. The Court System should form Internal User Groups based upon the needs determined by the Workflow Analysis. These user groups should be an "open forum" to discuss mutual needs, problems and issues, and to share information. User groups are effective in sharing

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information amongst themselves, but also to establish a "voice" of common concerns shared with the System Administrator. Often, several users have the same idea of optimizing a particular function within an application. The System Administrator, chairing the user group meetings, can either address this idea or bring it to the attention of the Application Specialist and ISS. An example may be a word processing macro created by an end user that would be valuable to all users.

- Year 2000 Compliance. The Court System and ISS should implement a plan to ensure all computer hardware and software applications used in the Court System are Year 2000 Compliant. While this consulting engagement only addresses the desktop applications and hardware, this issue should be addressed for the entire Court System, including the database applications.

With the approved budget all hardware and software for the Court System and ISS should be replaced by August 1999 which will incorporate year 2000 compliance.

- Technology Project Request Procedure. The Court System should implement a technology project request procedure that requires both ISS and the requestor to establish project definitions, specifications, budgets, time lines, milestone checks, and sign off requirements for the project. These types of projects usually require time of either the Application Specialist or ISS and should be viewed as special projects. By implementing this project schedule and log, both ISS and the end user become accountable for the project, thus ensuring the usability and the responsibility for the project.

If the budget is approved to hire an Application Specialist an implementation plan will be developed to address special projects, time lines etc. The Application Specialist will work closely with ISS to ensure these projects are being completed in a timely manner and will satisfied the end-users needs.

- Lower Court Technology. The Court System should establish a court liaison at the Trial Court level to help ensure that these courts have the knowledge and resources for future Court technology direction.

In the FY 98/99 budget there is an issue that addresses Trial Court Technology positions that are at a high level. This position will be equivalent to a CEO or Director of Automation.

- Improve communications between ISS and Court System. ISS is responsible for a number of applications, software development, hardware and networking technologies. ISS should better "promote" the responsibilities and services provided to the Court System in order to establish a more favorable communication environment with end users. End users should realize the functions and responsibilities of ISS and utilize existing System Administrators and the Help Desk as the first line of support. A diagram is included in the Appendix that details the ISS Structure Interface with the Court System.
- ISS Test Platform. ISS should install a test platform consisting of the computer hardware and software currently used in the Court System desktop applications, specifically for the *Judge's Suite*. This test platform will provide ISS with a system to test all new software applications

and any changes to existing applications and assist in troubleshooting problems without disturbing end users.

A model workstation is already in place to test any new software before implementation. It is also used to ensure that all hardware is configured the same before it is installed.

- Password Security. Password security is lax at the Court System level. This can become both a problem and an embarrassment to the Court System, should an outsider gain access either internally or externally to the system. The following are recommendations common in the industry for password security:
 - Implement an internal password security system that forces the end user to change his/her password on a periodic basis, at least once a quarter.
 - Mandate password changes when a System Administrator, ISS supervisor, or anyone with system-wide access leaves the Court System.
 - Passwords should be between six and ten alphanumeric characters long, include symbols, mixtures of capitalization and lowercase letters.
 - Those requiring dial-in access to the Court System should implement an additional security procedure, usually requiring a separate password in addition to the user login password.

Upon implementation of the new system, a security policy was developed and approved by the Appellate Court Sub-Committee. After approval, the policies were distributed to each user at the time of installation of the new system. Attached (Attachment E) is the security policy.

- System Administrators. The Court System has established a position for a System Administrator for the Supreme Court and each of the five District Courts of Appeal. However, the duties of the System Administrator are often not clear, leaving room for internal communication problems and interface problems with end users and ISS. I recommend the following for System Administrators:
 - Each Court should have one full-time System Administrator for every 35-40 end users. This will help alleviate the problems of user request response times and provide more efficient end user support. It will also provide more time for System Administrators to work with end users more effectively, thus improving the end user productivity and efficiency.
 - System Administrators are the front line support for end users; end users should contact either the System Administrator or Help Desk for questions and not contact ISS directly. This will help alleviate the problems of communication breakdown between end users and ISS.

- System Administrators work for the Chief Judge in each of the respective Courts. This will help alleviate problems with authority.
- System Administrators should receive additional training. This will help improve the knowledge and experience of the System Administrator and help improve the end user support.

ISS concurs with these recommendations. A document is being created for the functions of the System Administrators. However, it is recommended that these functions be reviewed and approved by the Appellate Court Sub-Committee and that the DCAs ensure the implementation.

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- The following is a table detailing the recommended number of System Administrators (SA) for each Court:

Court	# Judges	Est. # Users	Current # SA	Recommended # SA
Supreme Court	7	70	1	2
1 st DCA	15	115	1	3
2 nd DCA	14	100	1	3
3 rd DCA	11	80	1	2
4 th DCA	12	100	1	3
5 th DCA	9	70	1	2
OSCA	-	120	0	3

- Ergonomic Recommendations. With the growing problems of repetitive strain injury (RSI), which include Carpal Tunnel Syndrome and Tendinitis, and other computer-related injuries with back and neck problems and eye strain, there has been considerable attention in the field of computer ergonomics and the computer workstation environment. It has been shown that with a few modifications to existing workstation environments, users will have fewer problems with computer-related injuries.

The eyes, neck, back, wrists, and legs are all affected by the computer workstation environment. The following are general guidelines to help end users create a more "ergonomically friendly" computing environment:

- The monitor should be in front of the end user (not to the side) at arm's length from the eyes. The top of the monitor should be level with the eyes, so the user looks down about 15 degrees.
- The keyboard should rest on the desktop, with arms parallel to the floor. A wrist rest will help hold the weight of the wrists while typing. The ~~Microsoft Natural~~ keyboard will allow users to keep their wrists straight, as opposed to angling in with a straight keyboard.
- The end user should have an adjustable chair, allowing for up & down adjustment to help keep legs parallel to the floor, and have a back adjustment to allow back support.
- Lighting should be so that the end user does not see a reflection on the computer monitor from either natural lighting (windows) or fluorescent lighting (overhead).

ISS concurs with these recommendations.

- ISS Staffing. ISS is currently organized as follows:
 - Desktop Application – “PC Service & Support”
Staff - 9 persons
Responsibilities include: Data Communications Support & Installation, PC Support & Installation, File Server Support & Installation, Cabling, Routing, LAN/WAN Support & Installation, Voice Communications, Database Administration, and Internet Support & Installation.
 - Database Application – “Application Development & Support”
Staff - 7 persons
Responsibilities include: database development and enhancement, training and support of database systems.
 - Administration
Staff - 4 persons
Responsibilities include: supporting ISS functions, developing & administering contracts, technology planning and technology presentations.
 - Recommended New Positions for ISS:
Application Specialist(s)
Training Specialist
WebMaster
- ISS Salary Structures. Current salaries for ISS staff are below those for other state government agencies in comparable positions. I recommend the Court System and ISS review other government agencies for salaries of personnel in similar positions with similar responsibilities. The Court System should upgrade the salaries of ISS staff, System Administrators, Application Specialist, Training Specialist, and WebMaster to the medial level. This will help alleviate the problem of staff turnover; it will also help to attract and retain qualified technical personnel.

A memo has been sent to Ken Palmer regarding this issue.

7.0 IMPLEMENTATION PLAN

The following implementation plan was discussed during my site visits to the Florida Supreme Court and the 1st District Court of Appeal.

7.1 Overview

Implementing technology is most successful with proper planning and coordination. Planning for downtime and productivity loss and coordinating training efforts during implementation are keys to a successful implementation. For all three years presented in the Implementation Plan, I recommend the following steps:

- Replace/upgrade network cabling, routers, hubs, connectors and associated hardware for the local area network.
- Replace/upgrade file server computer hardware.
- Replace/upgrade file server software.
- "Build" desktop workstations at *Judge's Suite* level, including hardware and standard software in a standard configuration.
- Replace desktop workstations, coordinate with end user training.
- Follow-up with end user configurations and customization.

7.2 First Year Implementation

During the first year of system-wide implementation, the Supreme Court computer systems will be upgraded. This upgrade will include both the computer hardware and the computer software. During the implementation, users should be trained on all applications.

7.3 Second Year Implementation

During the second year of system-wide implementation, three of the District Courts of Appeal will be upgraded. This upgrade will include both the computer hardware and the computer software. During the implementation, users should be trained on all applications.

7.4 Third Year Implementation

During the third year of system-wide implementation, the remaining two District Courts of Appeal and the Office of the State Courts Administrator will be upgraded. This upgrade will include both the computer hardware and the computer software. During the implementation, users should be trained on all applications.

8.0 OTHER ISSUES OF CONCERN

There are several issues of concern for the Court System that have been discussed during my site interviews. These are beyond the scope of the consulting engagement, but deserve mention for future considerations.

- **Case Management System Implementation**

A new case management system (CMS) will be installed early this year in conjunction with a planned hardware upgrade. However, the planned hardware upgrade does not provide for upgrading all Court System computers; the implementation plan (and accompanying budget) provides for upgrading only the Supreme Court computer systems in the first year.

The CMS is designed primarily for the District Courts of Appeal, and is designed to take advantage of the newer 32-bit desktop application. Using this newer software technology on the older computer hardware systems will probably cause several problems, including:

- interface problems with existing software applications;
- incompatibility problems between existing software applications;
- desktop computer system crashes or lockups;
- performance degradation at the desktop computer.

- **Lower Level Court Technologies**

The Trial Courts will eventually be required to interface information and data with the State Courts. I am not aware of any mechanism in place to assist these courts with a long-range plan or direction for technology. These courts rely on internal consulting through their respective counties and are driven by their systems technologies and county budgets, often a different hardware and software system than other counties and circuits. This leads to incompatibility between systems.

9.0 APPENDIX

- System Administrator Job Description
- Application Specialist Job Description
- End User Training Diagram
- ISS Structure Interface Diagram

System Administrator Job Description

- **Description**

The System Administrator is assigned to each Court System to be the front line end user support. The System Administrator reports to the Chief Judge in each court. The System Administrator interfaces with ISS for technical issues that cannot be addressed at the System Administrator level.
- **Duties and Responsibilities**
 - Provide end users with computer hardware and software support, consulting, training, and answering application questions, troubleshooting problems. Log problems as deemed necessary to share with other System Administrators in the Court System.
 - Assist end users in all aspects of using technology to improve the achievement levels required by the Court System.
 - Install *Judge's Suite* desktop application software according to the standard configuration developed by ISS for the Court System.
 - Configure user's desktop on individual basis. This includes individual desktops in the Windows environment and individual button bars in desktop applications.
 - Help develop and support individual macros for end users. Maintain log of macros as deemed necessary to share with other System Administrators and end users in the Court System.
 - Analyze end user needs and collaborate with ISS, the Desktop Application Specialist to develop or enhance technologies to meet those needs.
 - Collaborate with ISS, the Desktop Application Specialist, and the Training Specialist to continue to enhance course materials in all Desktop Applications used in the *Judge's Suite*.
 - Collaborate with ISS and the Desktop Application Specialist for application troubleshooting and issues that cannot be resolved by System Administrators.

Desktop Application Specialist Job Description

- **Description**

The Desktop Application Specialist is the expert's expert for those applications used in the *Judge's Suite*. The role of the Desktop Application Specialist is to assist the System Administrators, the end user, and ISS in developing new applications for existing software used in the *Judge's Suite*.

- **Duties and Responsibilities**

- Consult with end users, System Administrators, and ISS to determine user needs and requirements and develop new applications to improve end user efficiency.
- Occasional third level support to end users.
- Develop application specific configurations above and beyond the responsibilities of the System Administrator. This will include developing macros for word processing, spreadsheet, database, and Windows '95 systems and other applications used within the *Judge's Suite*.
- Work in the Information Systems & Services department of the Office of the State Courts Administrator.
- Work with the Training Specialist to assist in developing course materials and guidelines for end users.

APPELLATE COURT IRM BUDGET ISSUE - FY 97/98

<u>Issue</u>	<u>Requested</u>	<u>IRC Recommended</u>
<u>Office Automation System Enhancement & Support:</u> Funding is being requested to:	\$ 354,282 includes 1 FTE	\$314,268 - 1 FTE (Reduction by the IRC is 25% lapse in the HelpDesk FTE and elimination of the \$28,000 for the network software upgrades).
- <u>Increase Recurring Base Appropriation for Hardware/Software Maintenance</u> \$20,000		
- <u>Upgrade DCA Telecommunication Lines</u> \$73,500 T-1 line installation at each site 6 DCAs & SC @ \$2500 each X 7 = \$17,500 Ongoing line costs @ \$1,000 per month X 8 months X 7 sites = \$56,000		
- <u>Complete Electronic Public Information Access Service Project in 4 of the DCA's</u> \$23,840 \$5,000 ODPS for each Court to purchase Hardware/Software = \$20,000 \$80 per month ongoing dial-in line costs for 4 dedicated lines in each court = \$3,840		
- <u>Upgrade (4 year old) Network Software</u> \$28,000 Novell or NT Network at each site @ \$3,500 X 8 (5DCAs, SC, OSCA & ISS)		
- <u>Network File Server Upgrades</u> (file servers \$40,900 storage availability is close to capacity) 2 / 4GB hard drives @ \$1,900 each X 7 sites (6 DCAs & SC) = \$13,300 X 2 = \$26,600 1 StorageWorks Expansion Cabinet for Lakeland site @ \$1,000 2 / 4GB hard drives for OSCA & ISS = \$7,600 1 64MB memory for OSCA & ISS development server @ \$2,840 X 2 = \$5,700		
- <u>Upgrade Document Back-up System</u> \$56,000 Hardware/Software for automated backup system at each site (6 DCAs, SC & OSCA) @ \$7,000 each		
- <u>Expansion of the Courts LAN Connections</u> \$ 6,400 2 concentrators at each site @ \$800 each		
- <u>Upgrade Internet Server</u> \$50,000		
- <u>Increase ISS HelpDesk Support (1FTE)</u> \$55,642		

Fiscal Year 98/99 Upgrade Issues**Systems Upgrades****Workstations***Target Price \$3,000*

Present day config: 266MHz Pentium II, 32MB RAM, 4GB Harddrive, 17" Color Monitor
 6 Months config: 300MHz Pentium II, 32MB RAM, 7GB Harddrive, 17" Color Monitor
 12 Months config: 400MHz Pentium II, 64MB RAM, 7GB Harddrive, 17" Color Monitor

Notebooks*Target Price \$3,500*

Present day config: 166MHz Pentium MMX, 24 MB RAM, 2GB Harddrive, 12.1" Display
 6 Months config: 200MHz Pentium MMX, 32 MB RAM, 2.5 GB Harddrive, 12.1" Display

Desktop/Notebook*Target Price \$5,000*

Present day config: 166MHz Pentium MMX, 32MB Ram, 2GB Harddrive, 17" Monitor,
 Docking Station

Local Area Network Upgrade*Based on 100 workstations, 3 Servers*

4 - 24port x 10Mbps + 2port x 100Mbps Switches	\$10,000
1 - 100Mbps Fast Ethernet Switch and Backplane	\$17,000
Total per Court	\$27,000

Court LAN Upgrade including DCA's and SupCt	\$202,919
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Network Printers	140 Networked Laser Printers * \$2,500/unit	\$350,000
Fileservers	Expand Harddrives and Memory	\$50,000
SQL Servers	Expand Harddrives and Memory	\$50,000

HEAT for Windows

► What is HEAT for Windows?

HEAT for Windows is a software system designed for help desks and customer support centers. It provides all the tools you need to log and resolve calls, store information about your customers, track information on your help desk's performance and generate detailed reports. With HEAT for Windows, you can respond to your customers more quickly and efficiently, without letting important calls fall through the cracks.

HEAT for Windows also contains many tools to make your work more efficient and productive, such as messaging, alarms and a customizable knowledge base. System administrators can also customize HEAT to meet their specific needs.

The screenshot shows the HEAT for Windows application window titled "HEAT for Windows: [Work Group] - New Call". The interface includes a menu bar (File, Edit, View, Group, Customer, Tools, Window, Help) and a toolbar with various icons. Below the menu is a status bar showing "Call ID: 00001271", "Stopwatch: 0:00:00", "Count: 1", and "Status".

The main form area contains several input fields and buttons:

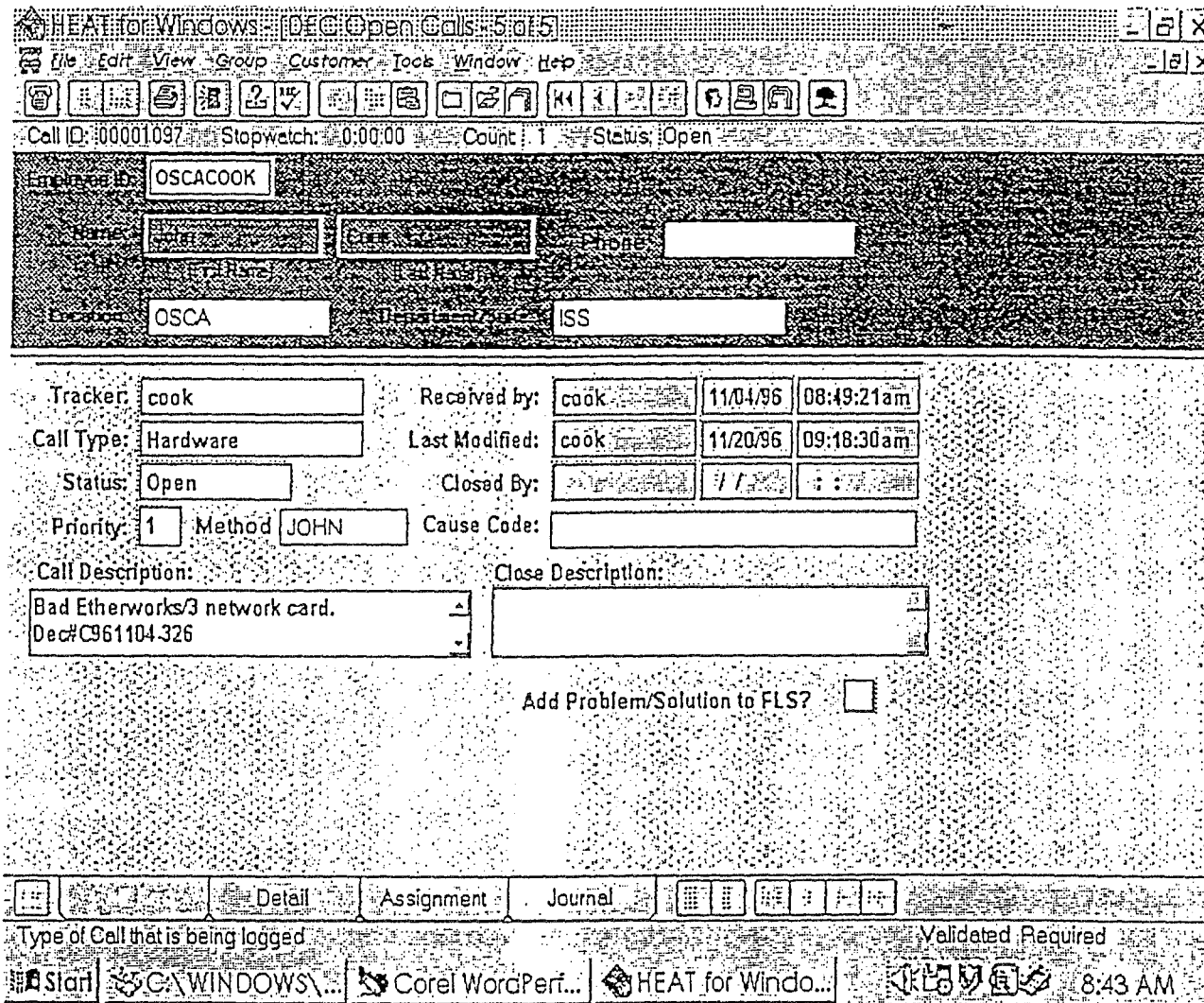
- Tracker:** decarden
- Received by:** decarden, 02/14/97, 09:52:56am
- Call Type:** [Empty field]
- Last Modified:** [Empty field]
- Status:** Open
- Closed By:** [Empty field]
- Priority:** [Empty field]
- Method:** [Empty field]
- Cause Code:** [Empty field]
- Call Description:** [Empty text area]
- Close Description:** [Empty text area]

At the bottom of the form, there is a checkbox labeled "Add Problem/Solution to FLS?".

The bottom of the window features a taskbar with icons for "Start", "Corel WordPerf...", "HEAT for Windo...", and "Exploring -C:\...", along with the system clock showing "9:53 AM".

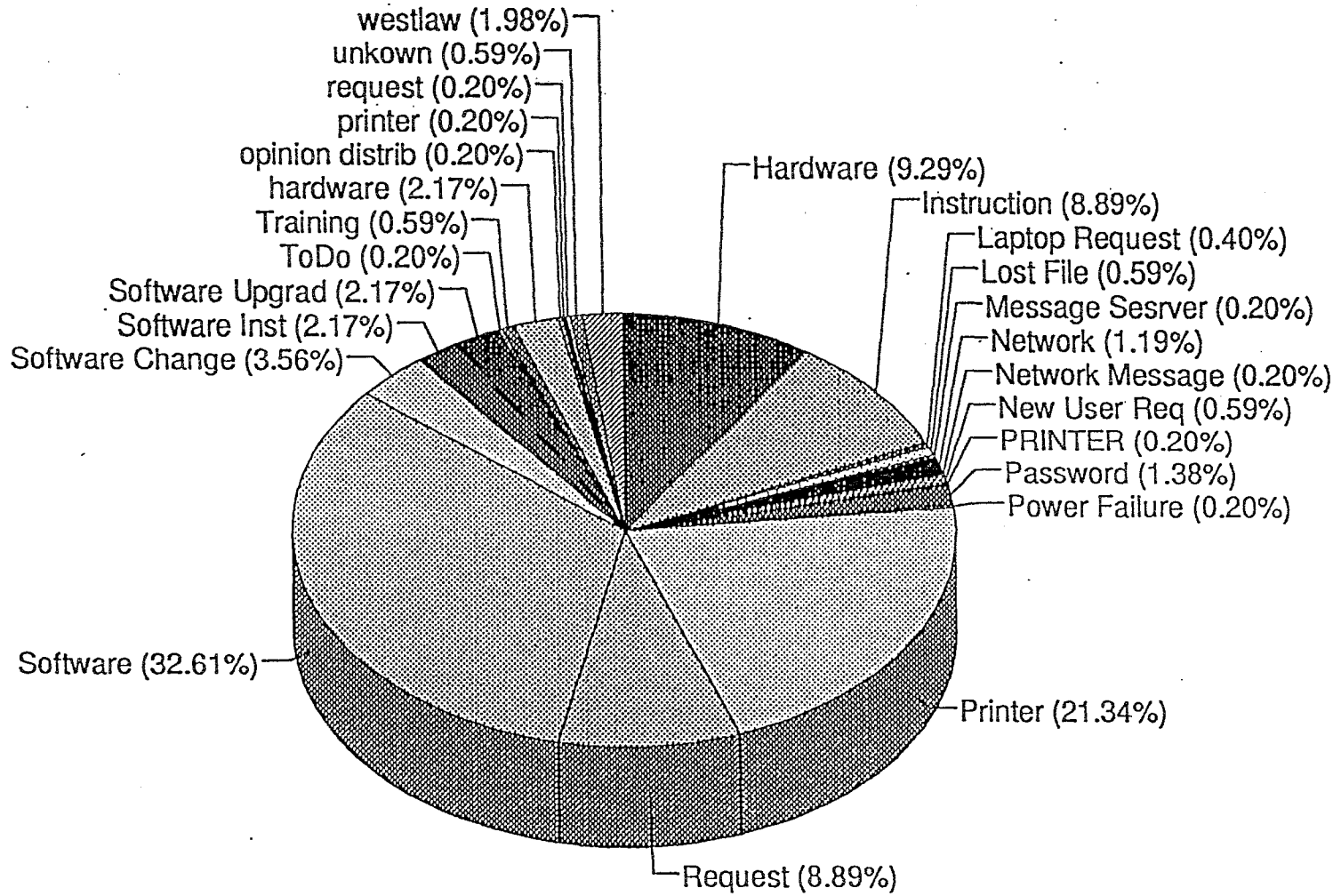
How will HEAT help your court?

If used correctly, HEAT can provide an efficient medium for communication between help desk/support personnel and each court's system administrator. By incorporating a central database, HEAT can provide a necessary log of all computer support issues at each court. From this database, reports can be generated in any number of different formats. For instance, reports can be generated to show 'Open' Digital hardware calls not yet resolved or left outstanding.



HEAT is especially good at keeping calls from falling through the cracks by managing them efficiently and effectively. Another asset that HEAT has is the ability to quickly analyze call trends and support response rates. It is important to note that even though HEAT has the ability to analyze response rates, HEAT will not be used to perform this function. The software can be best served by it's ability to log and manage all support calls.

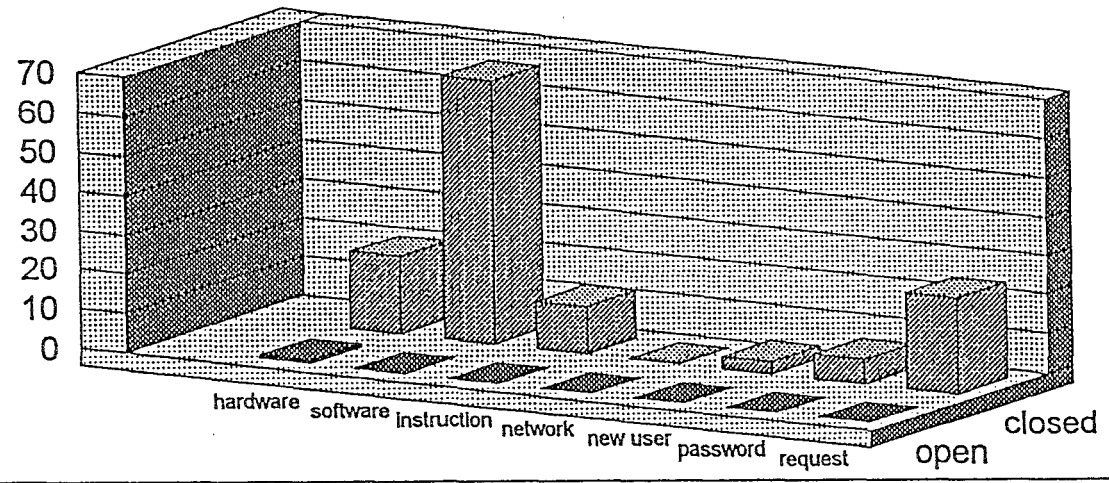
COMMON HEAT CALLS



HATC 11111

1DCA Heat Calls

Call Type Status



Training for ISS Administrative Staff

Formal Training:

Maria Arnold
Fundamental Issues of Case Flow Management
3 Days - December 1997

Christina Blakeslee
Risk Watch Analysis
3 Days - August 1997

Christina Blakeslee
Differentiated Case Flow Management
3 Days - October 1997

Christina Blakeslee
Introduction to Presentations
1 Day - January 1998

ISS Support Staff Train Schedule

Application Support

March 13-14, 1997
Advanced Hardware Troubleshooting
Attended by Robert De Cardenas
Training hosted by Computer Tutors, Inc.

PC Support

April 7, 1997
Intro to Hardware Troubleshooting
Attended by Hanna Watson, Clifford Chong
Training hosted by Computer Tutors, Inc.

PC Support

April 24-25, 1997
Intermediate/Advanced Hardware Troubleshooting
Attended by Hanna Watson, Clifford Chong
Training hosted by Computer Tutors, Inc.

PC Support

April 30th - May 2 1997
Novell Intranetware 4.11 Administration/Migration
Attendees include: Robert De Cardenas, Jeanine Sole,
Margaret Castiglia, Mike Mullins, Greg Brock,
Perrone Ford.
Training hosted by Productivity Point. (Liz Gomez)

Intranetware 4.11

May 12 - 13th, 1997
Novell Groupwise 5.x Migration
Attendees include: Robert De Cardenas, Jeanine Sole,
Margaret Castiglia, Mike Mullins, Greg Brock, and
Perrone Ford.
Training hosted by Productivity Point.

GroupWise 5

July 7-11, 1997
Novell Netware 4.11 Administration
Attended by DJ Caldwell
Training hosted by Productivity Point. (Liz Gomez)

GroupWise 5

July 14-18, 1997
Microsoft SQL Administration Training
Attended by Mike Mullins
Training hosted by Productivity Point.

Case Management
and OBTS

August 25-29, 1997
Implementing Database design on SQL Server
Attended by Mike Mullins
Training hosted by Productivity Point.

Case Management
and OBTS

September 8 -12, 1997
Novell Netware 4.11 Administration
Attended by Hanna Watson, Clifford Chong, and
Leslie Sullivan
Training hosted by Productivity Point. (Liz Gomez)

Intranetware 4.11

September 29 - 30, 1997
LAN/WAN Protocols
Attended by Robert De Cardenas
Training hosted by Advanced Research Group.

TCP/IP Networking
for DCA's and Trial Courts

October 1 - 3, 1997
Bridges, Router and Switches

TCP/IP Networking

Attended by Robert De Cardenas
Training hosted by Advanced Research Group.

ATTENDING
for DCA's and Trial Courts

November 13, 1997
Groupwise 5.x Advanced Administration
Attended by Mike Mullins
Training hosted by Productivity Point.

GroupWise 5

December 3 - 5, 1997
Novell Groupwise 5.x Administration
Attended by Dave Sutton
Training hosted by Productivity Point.

GroupWise 5

January 14, 1998
Intro to WordPerfect 8.0
Attended by Susannah Kraft
Training hosted by Software Solutions Now! (Susan Kennedy)

WordPerfect

January 21, 1998
Presentations 8.0
Attended by Susannah Kraft, Hanna Watson
Training hosted by Productivity Point. (Vince Edwards)

Presentations 8.0

January 23, 1998
Intermediate WordPerfect 8.0
Attended by Susannah Kraft, Hanna Watson
Training hosted by Software Solutions Now! (Susan Kennedy)

WordPerfect

January 27, 1998
Advanced WordPerfect 8.0
Attended by Susannah Kraft, Hanna Watson
Training hosted by Software Solutions Now! (Susan Kennedy)

WordPerfect

January 28, 1998
Advanced WordPerfect 8.0 Macros
Attended by Susannah Kraft, Hanna Watson
Training hosted by Software Solutions Now! (Susan Kennedy)

WordPerfect

**Information Systems Applications Development Staff
Training**

Formal Training:

Introduction to PowerBuilder 4 days

Attendees:

Gary Croudace
Tony Sullivan
Kim Brinson
Clyde Conrad

Introduction to PowerTool 3 days

Attendees:

Gary Croudace
Kim Brinson
Clyde Conrad

Intermediate PowerTool 4 days

Attendees:

Gary Croudace
Kim Brinson
Clyde Conrad

Advance PowerTool 5 days

Attendees:

Gary Croudace
Kim Brinson
Clyde Conrad
John Parker
Jong Sheu

Microsoft Sql Server Database 5 days

Attendees:

Gary Croudace

Leadership Class 1 Day

Attendees: Clyde Conrad

Planned Formal Training:

Fast Track to PowerBuilder (Chris Wade) 5 days

Advanced PowerBuilder Controls (Jong Sheu) 2 days

Mastering Data Windows (Jong Sheu, John Parker) 3 days

Informal Training

Computer Based PowerBuilder Self Paced

Users:

Clyde Conrad
John Parker
Kim Brinson
Chris Wade

Computer Based Microsoft Sql Server Database Self Paced

Users:

Clyde Conrad
John Parker
Kim Brinson

Introduction to Oracle Relational Database One day

Attendees:

Clyde Conrad
John Parker
Jong Sheu
Gary Croudace
Chris Wade