



# JTC Resource Bulletin

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## Implementing Judicial Tools

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Version 1.0

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## Abstract

Judicial Tools are applications that address the day-to-day operational needs of judges. A judicial tools project is smaller than a case or document management system project and will require a different approach than other court technology initiatives. This paper provides a basic explanation of technology options and implementation considerations for courts planning a judicial tools initiative.

## Document History and Version Control

Version	Date Approved	Approved by	Brief Description
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### JTC Mission:

To improve the administration of justice through technology

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## Executive Summary

Judicial Tools is a term used to describe technology that addresses the day-to-day operational needs of judges. Judicial tools:

- Do not replace or compete with existing systems.
- May or may not be integrated with other judicial systems, but are most valuable when they leverage data available through existing systems.
- Often will not affect the official record.

A judicial tools initiative is a smaller project than a case or document management system, but is still a major initiative that will require normal project planning efforts such as establishing governance and implementation committees, defining the scope of work, and creating an implementation plan. Because Judicial Tools often do not impact the official record, use of the tools will be optional, which means that a successful implementation is contingent completely on the tools delivering value to judges. Quantifiable savings in both time and money can help justify the purchase as well as convince judges of the value of making the effort to adopt the technology.

Historically, courts are institutions that are slow to change and the technology landscape is particularly impacted by this delayed pace. New tools or processes must demonstrate clear value, improving the judge's ability to effectively administer justice. The Chief Judge or Presiding Judge must be actively engaged as a sponsor. A judicial tools project should involve a cross-functional contingent of primary stakeholders with deep knowledge of the court's culture and business practices. Court rules or policies may require modifications before a judicial tool can be implemented.

Courts must determine what solution their IT organization can support from both short- and long-term perspectives. Building a solution internally is often better for courts with existing technology resources and defined IT governance structure. Buying an "off the shelf" solution may be better for courts that have existing vendor-supported systems. Courts may also consider some combination of the two approaches (build and buy).

Judicial tools may be standalone or integrated with existing systems. In either case, system performance is key to a successful implementation. Overall performance will be directly dependent on the back-end systems where data resides. Data security and disaster recovery plans are essential to ensuring that court processes are not interrupted. Courts can implement Judicial Tools on premises, or outsource the infrastructure via Cloud Computing. Cloud Computing offers significant capacity, security, and support benefits.

Implementing judicial tools will require judges and their support staff to reimagine the way they access and process cases and documents on the bench, as well as manage case processing. As a result, the communications, implementation, training, and support plans for judicial tools should markedly differ from efforts to implement a traditional case management system. Because user error or system malfunction could disrupt the normal operation of the court, project plans must particularly address training and support.

This paper focuses specifically on implementing tools and processes that make records and analytical tools available to judges both in and out of the courtroom.

#### Summary of Recommendations:

- Use formal project planning and change management processes.
- Include Chief or Presiding Judge in governance committee, tech-savvy judges in planning committees, and well-respected judges in implementation teams regardless of their individual technical abilities.
- Use metrics throughout the project: identify areas with potential for success, measure before and after implementation, and measure post-implementation for potential follow-up training and other needs.
- Select the best option for software development: off-the-shelf, internal development, or a combination of the two.
- Consider infrastructure needs and capabilities. Determine whether information will be stored on the premises or in the cloud.
- Evaluate the potential for data integration with other court systems.
- Consider culture changes throughout the life of the project, especially during and following implementation.
- Communicate consistently and effectively with all stakeholder groups throughout the course of the project. Tailor messages to meet the needs of each stakeholder group.
- Incorporate mobile technology and “Bring Your Own Device” (BYOD); judges will expect to be able to use their personal devices to access judicial tools from anywhere.
- Plan for implementation to be phased or all at once, depending on the type of tool and the needs of the jurisdiction. Focus on training judges and their staff as a critical part of the project rollout, and provide follow-on training after the system is fully implemented.
- Budget adequately for ongoing support and maintenance as well as development.

## Introduction

Judicial Tools is a term used to describe technology that addresses the day-to-day operational needs of judges. This paper is the second in a series addressing the topic of judicial tools. The first paper, *Making the Case for Judicial Tools*, covered Judicial Case Flow Management (JCFM), business capabilities, and configurable tools. Building on those concepts, this paper focuses specifically on implementing tools and processes that make records and analytical tools available to judges both in and out of the courtroom.

Unlike case management systems that house the digital record and run courthouses, judicial tools do not replace or compete with existing systems, and most often are “read-only” systems, not affecting the official record. Judicial tools may or may not be integrated with other judicial systems, but are most valuable when they make use of data available through existing systems. While this document presumes the use of electronic case records, tools can be developed and installed absent of a completely electronic or digital environment.

Some courts may consider judicial tools as interfaces for judges to the case management system, which means they will be changing or adding to the permanent record of the case. Extra care should be taken in these instances, putting checks and balances in place to monitor changes in the permanent record. Ensuring the accuracy of the permanent record will help judges be comfortable with this type of change in case processing. In most instances, judicial tools use information from the case management or document management systems, but do not automatically update those systems.

Because utilization is essential to a successful implementation, this “roadmap” also includes recommendations and considerations to help judges successfully adopt and leverage judicial technology.

For recommendations and assistance relating to court technology initiatives in general, courts are encouraged to see the following additional resources:

- *A Guide to Technology Planning for Court Managers - Mastering Successful IT Projects*<sup>1</sup>
- The National Center for State Courts: [Information and Resources](#)
- [Joint Technology Committee](#) publications

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<sup>1</sup> "A Guide to Technology Planning for Court Managers - Managing Successful IT Projects." *National Association of Court Managers*. 2014. Web. 14 Mar. 2016.

## Planning

Planning for Judicial Tools begins with defining the scope of the project. To establish that scope of work, the court must first evaluate existing hardware and software that will integrate with or be used by judicial tools to determine if those systems are adequate to support the implementation of judicial tools.

The project plan should clearly define the goal(s) and scope of the project, budget and funding, and implementation plans. In addition, the project plan should include metrics by which success can be defined or measured. A quantifiable benefit from the successful implementation of one judicial tool can create interest in and help justify funding for future judicial tool projects.

All aspects of the implementation of judicial tools should be considered to identify the criteria for success. The metrics established should be objective, accepted by the governance committee and court, and easily defendable to stakeholders and other interested parties.

## Governance

The governance committee is responsible for establishing the project's specific goals, budget, and timeline, as well as the process for decision-making and conflict resolution. To be successful, a judicial tools project must have a strong project sponsor, and be led by a governance team that has the support, buy-in, and leadership from the judiciary it hopes to serve. Judicial participation is critical in any Judicial Tools initiative. Judges willing to document and review business processes can help identify pain points and opportunities for improvement.

### Project Sponsor

The sponsor or champion should ideally be the Chief Justice or other Presiding Judge. He or she must be willing to advocate for and endorse the project. The project sponsor may be particularly important in identifying and obtaining funding.

### Governance Committee

A governance committee should be relatively small and include final decision makers, subject-matter experts, and a strong cross-section of interested parties. Key participants include the named person or a high-ranking representative from each of the following departments:

- Chief or Presiding Judge

- Court Administrator
- Information Technology
- Clerk of Court
- Budget/Finance

A chairperson may be elected by the committee, or appointed by the project sponsor.

The structure of the governance committee may change over time based on the needs of the court and jurisdictional geography. In cases where a project will impact multiple jurisdictions, governance must establish the necessary agreements and participation across multiple geographic or political boundaries.

The governance committee should meet on a consistent schedule, frequently enough to oversee the work of the project manager and to keep the overall implementation on track. While the governance committee serves as a formal decision making body, final procurement decisions are usually reserved for the Chief Justice or Presiding Judge.

### **Project Manager**

To ensure credibility for the project, the project manager should have technical expertise and a good working relationship with the court community. He or she will need an understanding of the interconnections between existing technology platforms, and experience in directly supporting existing court processes, without being vested in continuation of those processes.

### **Implementation Team**

A strong implementation team is an essential component of a successful implementation plan. The implementation team should include a cross-functional contingent of primary stakeholders with deep knowledge of the court's culture and business practices, and the capacity to effectively communicate and to build consensus. Key stakeholders include judicial officers and their chambers representatives, infrastructure representatives, developers, administration, and someone integral to the process of managing electronic records in the court. To ensure use of the technology can be accommodated within the courthouse facility without interfering with the primary functions of the judge, IT and facilities management participation is critical.

It may seem logical to involve those who are the most enthusiastic about technology. However, the success of the implementation will hinge on whether the tool is viewed as useful by both technology enthusiasts and technology-

resistant judges. The court's thought leaders should be involved, regardless of their technology expertise. Avoid involving individuals with divisive or polarizing personalities.

Embracing judicial tools will likely require a culture shift for some judges. Involve one or more judges who can personally champion the judicial tool's positive impact on workflow and judicial process. While participating will mean a time commitment for judges on and off the bench, judicial perspective is essential to ensuring the tools will meet their needs and assist in the resolution of cases. Consider identifying one team member to be responsible for developing and executing a change management strategy. Adopting a new class of tools will require judges to overcome natural skepticism and resistance to change. Embed the tool within the culture and limit options for reverting to old processes.

## Funding and Procurement

An effective project plan must include a sound funding strategy that will help the court be responsive to the needs, wants, and expectations set forth by the bench, while balancing the availability of resources. Adequate funding is critical, and helps to ensure that attempts for implementation are not a failure. The project sponsor is particularly important in identifying funding.

Court administrators often receive the budget allocation for court technology, and are often most aware of the technology needs of the clerk's office and staff. Because the need to do more with less is a cyclical constant in government, administrators looking for ways to improve efficiencies may allocate resources (financial and personnel) without even considering judicial technology requirements. Judicial support and encouragement for judicial tools will aid administrators in their quest for efficiencies.

## Budget

The cost of each judicial tool should be estimated separately in terms of the resources required to research, acquire (build vs. buy), implement, and support. This information is important when establishing project priorities.

A viable funding strategy is essential. That strategy must address the estimated total funding needed to acquire the judicial tool as well as to provide ongoing support.

The funding plan can include short- and long-term resources from a local, state, and/or federal level. If state statutes or court rules allow, explore the possibility of implementing filing fees – temporary, short-term, or long-term – to cover the cost

of implementing a new judicial tool. U.S. Department of Justice grants and other Federal funding may also be available.

Long-term funding is needed for maintenance and support. The court's funding plan should also provide for contingencies in costs, as laws or uniform rules may change during the procurement process.

### Purchasing

Judges may not exercise a strong voice in the buying decision or have an interest in assessing technology. Most Judges and court staff are committed to using resources as effectively as possible and will seek innovative ways to use technology to achieve greater efficiency and enhanced performance.

Procurement and contract activities are typically formalized processes. Courts should consult their appropriations or budgeting bodies to ensure they adhere to general rules in the process.

Consider the fiscal budgeting cycle for the jurisdiction, especially as part of determining the project timeline.

### Policy

Court rules or policies may require modifications before a judicial tool can be implemented. For example, court rules may need to be modified to allow electronic or digital signatures instead of wet signatures. Other changes to court rules may be needed to allow for editing electronic proposed orders, incorporating electronic notices, and enabling batch signing. Identify these considerations as early as possible to ensure that the court has sufficient time to implement modifications to business practices.

### Operation

Document existing processes and workflows that the judicial tool will support:

- A judge's review queue.
- Order types that come in to the judge, and through what means: paper, email, efiling, or other system.
- Changes to a proposed order.
- Routing pending orders waiting to be signed based on dependencies of the case (holding 90 days to allow for attorney to file a motion, etc.).
- Courtroom process that may be enhanced or improved, including those that may include clerk processing

Identify “pain points” for the court: activities where the workflow of the court is impeded by a technology limitation. For example, the inability to quickly locate a specific document in a complex file is an inefficiency that could be resolved by a judicial tool.

Quantify the problem by calculating the cost of the judge’s time to retrieve that document using the current process. Then estimate the judge’s time (and therefore cost) to access and utilize that same document through a judicial tool. Multiply the per-document estimated savings by the average number of documents accessed per month. Quantifiable savings in both time and money can help justify the purchase as well as convince judges of the value of making the effort to adopt the technology.

## Culture

Historically, courts are institutions that are slow to change, and the technology landscape is particularly impacted by this delayed pace. Often judges operate independently and use whatever tools – manual or automated – that work best for them to adjudicate cases in their individual courtrooms. Notably, judges are not required to use new technology simply because it is available. Change management is a vital part of a technology implementation because any disruption of the normal operation of the court may have a negative impact on parties in a case, the jail, law enforcement, social services agencies, and the public.

Planning and implementation efforts must take into account the court’s culture. Consider the impact a judicial tool may have on the court and court staff as the tool replaces an existing system or paper-based process that has been the norm for many years. If clerks have traditionally entered updates into case management systems and provided printed orders and case-related paperwork to judges, it may be uncomfortable for both clerks and judges to transition to a process that gives judges direct access. Acceptance and successful implementation will be determined in large part by the court’s willingness to embrace change.

Change management is a systematic approach to change that addresses the perspectives of both the organization and the individual. The governance team must develop a change management plan that defines tasks and roles designed to ease the transition into full implementation, and includes plans for ongoing communication with those who may be affected. Develop a plan to move the court from the “as is” to the “to be.” Identify what level of change management is likely to be required to implement the judicial tools. Most change management plans separate activities into three phases:

1. **Preparing for change:** preparation, assessment and strategy development.
2. **Managing change:** detailed planning and change management implementation.
3. **Reinforcing change:** data gathering, corrective action, and recognition.

A Judicial tools project will succeed or fail depending on the level of voluntary adoption. A good change management plan can improve the return on investment by ensuring the new functionality is utilized. When personnel are prepared to accept practical and predictable change, they are more likely to successfully adopt and transition to new technology.

New technology implementations sometimes fail because of the human tendency to revert to familiar routines. A change management plan anticipates that tendency, and proactively ensures that new programs become embedded within a culture. Change management planning should anticipate what circumstances are likely to cause judges to revert to old routines, and then develop mechanisms to address those issues. Identifying those circumstances may require user surveys, one-on-one meetings, work group retreats, or mock work sessions.

Perhaps the most important element of change management is having engaged and invested stakeholders and decision makers involved at the commencement of the project. Recognized subject-matter experts, good communicators, and respected leaders will be able to help their peers' transition effectively to the new tools and processes.

Change must be an organizational priority. The Chief or Presiding Judge and the court administrator must be both well-informed and unified in their messaging regarding the significance of the project. Clear, accurate, and timely communication is essential to limiting disruptions during the transition. Set realistic expectations for the user community<sup>2</sup> prior to the transition.

The shift to judicial tools will be sustained by paying attention to what happens after the initial enthusiasm of adoption wears off. The goal is for Judicial tools to become the default option. A wide variety of resources are available to help organizations with the kind of change required to successfully implement judicial tools.

## Technology

Judicial tools initiatives must address not only the required functionality, but also the court's particular technology infrastructure, capacity, and culture. The implementation team will need to assess the technical environment that the tool will need to run within, as well as review the organization's current technology and capacity to support future tools. Consider existing systems and integration points:

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<sup>2</sup> In a Judicial tools implementation, the user community would be primarily Judges and their staff. Clerks and IT may also be included as they provide assistance to those users.

- Adequacy of case and document management systems currently in use.
- Electronic filing service providers and/or managers.
- Sources of information judges are currently using.
- Use of clerks as part of current process, especially in courtroom.
- Current level of conformance to national technology standards (NIEM, efiling 4.0, global reference architecture).
- Device environment / BYOD.
- IT staffing and bandwidth.
- Disaster recovery plan and manual backup procedures.

A comparison of other jurisdictions that are similar in business process and technical environment may be useful. While each jurisdiction is unique, there is value in learning from the experiences of other courts. Find reference points to common problems, and look for innovative solutions.

Figure 1 - Judicial Tools Maturity Model provides a framework for evaluating the organization's "maturity" in each of several case processing areas. The court may be at the 'advanced' level in case information, but the 'paper' level in court events. Planning and implementation efforts should take the court's technology maturity into account. Should the court work to bring court events to the advanced level, or improve in one of the other areas? Which effort will provide the highest return on investment?

Figure 1 - Judicial Tools Maturity Model

Judicial Tools Maturity Model						
Version 1.1 (September 2015)						
Stage	Case Information	Case Management Information	Documents	Chambers Work	Calendar and Court Events	Communication
Advanced	<ul style="list-style-type: none"> <li>Access to related cases</li> <li>Case workflow and integrated scheduling</li> <li>Remote capabilities</li> <li>Configurable</li> </ul>	<ul style="list-style-type: none"> <li>Ticklers and alerts for cases outside established standards</li> <li>Trend analysis</li> </ul>	<ul style="list-style-type: none"> <li>Annotations</li> <li>eSignature</li> <li>Document rights management</li> <li>Remote capabilities</li> <li>Document routing</li> </ul>	<ul style="list-style-type: none"> <li>Document grouping, citation linking, and cross-referencing</li> <li>Automated sentencing and jury instruction tools</li> <li>Pending workflow queue</li> </ul>	<ul style="list-style-type: none"> <li>Automated scheduling</li> <li>Access to real time updates on case docket</li> <li>Video transcript with playback capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Automated reminders and ticklers based on case workflow</li> </ul>
Intermediate	<ul style="list-style-type: none"> <li>Advanced search</li> <li>Complete case information, including judge notes and research</li> <li>Document integration</li> <li>Future court calendar</li> <li>External data sources</li> </ul>	<ul style="list-style-type: none"> <li>Real time access to case mgmt. information relative to standards</li> <li>Graphical view</li> <li>Drill down capability to specific case data</li> </ul>	<ul style="list-style-type: none"> <li>Document viewing integrated with case information</li> <li>Document notes</li> <li>Text searchable</li> <li>Document creation with case data integration</li> </ul>	<ul style="list-style-type: none"> <li>Templates and macros for jury instructions, orders and judgments</li> <li>Review of upcoming docket</li> <li>Remote capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Video conferencing</li> <li>View electronic documents</li> <li>Audio transcript with playback capabilities</li> <li>Reserve future court dates</li> <li>Access to real time transcript</li> </ul>	<ul style="list-style-type: none"> <li>Integrated case notes</li> <li>Text messaging</li> <li>Instant Messaging capabilities between judge and support staff</li> </ul>
Basic	<ul style="list-style-type: none"> <li>Basic search capability</li> <li>Case summary information</li> </ul>	<ul style="list-style-type: none"> <li>Links to static reports, benchmarks, and time standards</li> </ul>	<ul style="list-style-type: none"> <li>Ability to search/filter documents</li> <li>Multiple document viewing</li> </ul>	<ul style="list-style-type: none"> <li>Online research tools</li> <li>Sentencing guidelines</li> <li>Jury instructions</li> </ul>	<ul style="list-style-type: none"> <li>Electronic calendar</li> <li>Electronic case details</li> <li>Telephonic appearance</li> </ul>	<ul style="list-style-type: none"> <li>Email</li> <li>Tentative rulings</li> <li>Electronic judge/clerk notes</li> <li>Real time transcripts</li> </ul>
Paper	<ul style="list-style-type: none"> <li>Case file folder</li> <li>Post-it notes</li> <li>Paper minutes</li> </ul>	<ul style="list-style-type: none"> <li>Monthly/quarterly paper statistical reports</li> </ul>	<ul style="list-style-type: none"> <li>Case file folder</li> <li>Marked-up working documents</li> </ul>	<ul style="list-style-type: none"> <li>Documents viewed in paper case file</li> <li>Paper notes</li> <li>Law books</li> <li>Basic word processing</li> </ul>	<ul style="list-style-type: none"> <li>In person</li> <li>Paper court calendar and minutes</li> <li>Paper case file for relevant case information</li> </ul>	<ul style="list-style-type: none"> <li>Post-it Notes</li> <li>Phone</li> <li>Paper notices</li> </ul>
Supporting Technology	CMS, DMS, calendar, remote access, mobile	Reporting system, CMS, Business Intelligence, Work queue business process management	DMS, CMS, remote access	CMS, DMS, file tracking, legal research tools, remote access	CMS, video conferencing, phone	CMS, email, SMS



For more information about the technology maturity model, see *The Judicial Workbench Roadmap: You Are Here*,<sup>3</sup> a 2015 Court Technology Conference presentation.

Courts have a wide variety of IT development and implementation options. Tools may be purchased “off the shelf” or developed in-house using either sequential or iterative software development methods. Judicial tools may be deployed on company-owned equipment, or via apps available on any device. Infrastructure may be on-site, or in the Cloud.

### Build vs. Buy

An important consideration is “build vs. buy” or some combination of both. Determine what solution your court’s IT organization can support, from both short- and long-term perspectives. The “build” solution is often better for those courts that have existing technology resources and defined IT governance

<sup>3</sup> Snorri Ogata and O. John Kuenhold, presenters, *The Judicial Workbench Roadmap: You are Here*, Court Technology Conference 2015, Minneapolis, Minn., accessed January 26, 2016.

structure, where as the “buy” solution is often better for courts that have vendor-supported systems. Regardless of prior “build vs. buy” choices, the project team must evaluate the pros and cons of current options and determine the long-term impact on other systems, as well as the impact on the court.

Courts that operate a proprietary statewide CMS are particularly challenged by build vs. buy scenarios. The customized CMS may not integrate easily with another system. In some instances, the best solution may be a blend of “build” and “buy.” Determining what portion of each will depend on options available to meet project requirements and the IT department’s capabilities and availability. Using readily available and proven off-the-shelf software reduces risk, and allows IT to concentrate resources on meeting requirements that are unique to the jurisdiction. Look for a product that addresses the majority of requirements. Off-the-shelf options may be somewhat customizable.

Estimating total cost is more difficult for a custom solution than for a vendor solution. In-house development may or may not be cheaper. Answering this question will require access to support cost information for existing systems in the jurisdiction. An off-the-shelf solution involves upfront costs and then a yearly maintenance fee at minimum. Developing something from scratch utilizes development resources, which means those resources are not available for other strategic projects, resulting in a “lost opportunity” cost that may be difficult to quantify.

Vendors may continue to release new functionality, while in-house development may cease at implementation. Custom solutions, whether developed in-house or by a vendor, may allow an iterative implementation with components being developed and implemented over a longer period of time as resources and technologies become available.

## Software Development

Whether developing in-house or through a vendor, court managers should be aware of development approaches that are widely used today, and have a basic understanding of the value of and tradeoffs inherent in the two approaches. **Agile** is an incremental approach to software development; efforts are modular and collaborative. **Waterfall** is a more traditional, sequential design process. Be sure to understand the experience of the programming team being deployed.

In general, the Agile approach has proven to be more efficient to developing software, especially in a team environment and where a subject matter expert (SME) is available to work with the programmers on an ongoing basis. An Agile approach allows the programming team to implement components of the

software over time, receive user feedback, and make modifications before moving on to the next major deliverable. If courts opt for Agile development, the project plan and budget must also include the time commitment required of SMEs.

### User Experience

For judicial tools to be successful, they must be intuitive to use, mobile, and accessible from a variety of devices, including those judges and their employees might bring from home or use at home.

#### *Bring Your Own Device (BYOD)*

In today's world of technology proliferation, users often bring their own devices to work. An employee might bring a smartphone, tablet computer, or laptop. This trend is expected to continue as devices get smaller, faster and cheaper.

As new generations of judges come to the bench, the demand for the use of personal devices will increase. Supporting a BYOD environment presents both challenges and benefits. To support BYOD, a court must have a clear policy specifying which devices are supported. Security must be addressed, as well as lost device and audit procedures. Courts that implement judicial tools should consider supporting BYOD in some manner.

#### *User Interface*

The clear trend in system implementations is to utilize user interface technology that can be accessed over the Web and through mobile devices. With the BYOD trend in mind, allocate resources to develop different user interfaces for both mobile and desktop devices.

### On Premises vs. Cloud

In addition to the build/buy considerations, courts can choose whether the solution will reside on the premises or in the "cloud." The size of the jurisdiction and the jurisdiction's IT capabilities will influence this choice. Computer systems are complex, requiring sophisticated hardware and software infrastructure.

Courts can purchase the infrastructure and implement Judicial Tools on premises, or they can outsource, which is commonly referred to as Cloud Computing. Because Cloud Computing offers significant capacity, security, and support benefits, courts should carefully consider that option for providing the infrastructure for Judicial Tools. For more information about Cloud computing in the court environment, see the JTC Resource Bulletin *Cloud Computing*.

## Infrastructure

To implement a judicial tools solution on premises, infrastructure must be considered in detail, much of which is beyond the scope of this paper. What follows are some high-level recommendations for several of the most critical infrastructure considerations.

### *Virtual Server Technology*

Judicial tools, whether on the premises or in the Cloud, should leverage virtual server technology. Using software to emulate physical servers allows many servers to be run on a single high-powered physical server. This more efficient use of server hardware means fewer physical servers are required, and power consumption is lower. However, the greatest benefit of using virtual servers is the flexibility it offers to the system administration team, particularly from a scalability and backup perspective. Because an entire virtual server can be encapsulated into one or more large files, a new server can be created in a matter of minutes. When a physical server fails, the virtual server can be recreated on another physical server and brought back online very quickly. Similarly, if the system requires additional server horsepower, a new server can be quickly added by simply replicating an existing virtual server.

### *Disaster Recovery*

Because hardware and software failures are inevitable, a thorough disaster recovery plan is essential to ensure data is always accessible. A good plan coupled with tested and documented internal processes will ensure that even if a failure occurs, the risk of permanent data loss will be statistically low.

Technologists and court stakeholders must give careful thought to protecting data, as well as to identifying and planning for the time it will take to recover from a loss of data. Factor in a realistic amount of system downtime, and have manual procedures that allow the court to function for a short time without access to the judicial tools and other systems.

Using a high-quality Cloud as a platform can dramatically improve disaster recovery capabilities. Cloud providers often have very sophisticated backup and recovery tools that are typically beyond what a Court can provide. With a Cloud implementation, the Court's responsibility is to ensure a reliable internet connection.

### *Security*

Servers and devices will be connected to the Internet, making it possible for intrusion by third parties with malicious intent. Security is a critical consideration during development, as well as a part of ongoing maintenance and auditing. A

high-quality Cloud platform can dramatically improve system security. Cloud providers have very sophisticated firewall protections and intrusion detection systems that would be difficult and costly for a court to replicate.

### **System Performance**

Performance is key to a successful tools implementation. A well-designed system with perfect features and workflows will be discarded if it interrupts the judge's ability to maintain a consistent flow of events in the courtroom. The process to find and view documents digitally must not take longer than it would to move from one piece of paper to the next. The overall performance of the judicial tools will be directly dependent on the back-end systems where the data resides. These systems need to be appropriately sized and configured to ensure robust access.

System performance is affected by many technical factors including network bandwidth, database server configuration, and application performance, each of which must be considered before implementation, and consistently monitored post-implementation. Continually upgrading one aspect while leaving others outdated or insufficient will negatively impact the overall usability of judicial tools.

Systems should be properly sized for the intended jurisdiction. For jurisdictions with multiple courts, estimate needs by matching the court's size (in terms of the number of judges and documents) with a reference jurisdiction. As part of the planning, the court implementation team should also assess the backlog of images, as well as the caseload going forward.

### **System Integration**

System integration is a key consideration when deploying judicial tools. The judge is one player in a complex systems environment, surrounded by others with their own systems. Much of the data that is required by a judge originates in one of these other computer systems.

#### *Data sharing*

Data can be shared via "push" or "pull." For performance or other technological reasons, best practice is to retrieve data from a system on-demand, rather than relying on synchronization. If data cannot be retrieved on-demand, it may be redundantly stored in another database. This can improve performance, but almost always increases complexity.

While there are a variety of ways to integrate systems, the primary goal is to share data seamlessly. The following integration approaches are common:

1. **Web Services.** Allows seamless data communication across a network or the Internet. This is the most desirable approach.
2. **API.** Application Programming Interface. A set of routines, protocols, and tools that specify how software components should interact.
3. **Open Data model.** Allows data to be extracted directly from a third-party database.
4. **Screen Integration.** Also known as screen scraping.
5. **Report Integration.** Reports from one system are used to extract data for use in another system.

A clear understanding of all the system integration requirements is necessary, as well as a plan for how the data will be passed. Consider using a company that specializes in system integration to save time and money. Systems that may require integration to judicial tools:

- E-filing
- Electronic Content Management (ECM)
- Case Management Systems (CMS)
- Calendar
- Email
- Accounting
- Human Resources

#### *Data capture*

Because much of the information available from judicial case flow management relies on an underlying CMS used by the clerk of court's office, data entry must be consistent. Standardized data entry is even more important when judges rely on these electronic tools instead of a paper file as the primary means to manage their cases, gather information, and locate court documents. Document names and docket events should be descriptive and useful. For example, a document titled "Plaintiff's motion for summary judgment" will be more helpful to a judge than one titled "Motion."

Scanning and document capture procedures must also be in place to ensure the electronic case file is always complete and accurate. The project plan should include standardized docket entries, document naming conventions, and scanning procedures that include timeframes. These processes will ensure judges can quickly locate accurate information and court documents. Reliable

and uniform data sets will help build confidence in the judicial tools and accelerate adoption.

## Communications

Justice system technology initiatives are typically for systems that will run an entire court or judicial branch, impacting nearly everyone in the organization in some way. Judicial tools are more narrowly focused, impacting only one class of worker. To reach that focus group, work to build a constituency, anticipate reservations, and address objections. Develop a communications plan for the entire lifecycle of the project, including personal updates for key stakeholders, general community updates, and milestone announcements. Key stakeholders include those to whom others within the court community listen. Such persons may not have formal positions of authority, yet will influence a tool's ultimate adoption by the user community.

Rather than making one big announcement when a solution is chosen, then communicating nothing until the project is ready for rollout, develop coordinated ongoing communications. Successful communications establish a level of readiness for the tool such that the rollout does not feel like a disruption to the court community.

### Messaging to Judges

A communications plan to “sell” the tools will need to both defuse resistance and build support. The first level of communications should be with judges.

Communications must clearly articulate what challenges the tool improves upon or solves. Providing information about what the tool is and what it is not will help users have appropriate expectations. The goal of the messaging to judges is to create a core judicial constituency by explaining how the tool will make the judge’s case processing better. Be sensitive to the reality that communications to judges often means also to whomever has the judge’s ear—usually his or her direct reports. The communications narrative thus should include how the tool will benefit staff and court customers.

### Messaging to Clerks

The case management system that houses the digital record and runs the courthouse is generally recognized as the domain of the clerk. Communications to clerks about judicial tools must begin by establishing that judicial tools are not intended to replace or compete with existing systems. In implementations where judicial tools are “read-only,” ensure that clerks understand a judge’s use of a judicial tool to access and analyze case information will not affect the official record.

Identifying clear boundaries between the new technology and existing systems should resolve a clerk's primary concerns. However, the tool may likely impact some aspect of the work of the clerk's office. Those concerns should be anticipated and addressed in project and change management plans.

### Messaging to IT

For technologists, concerns are likely to center around control and cost. System development that will be driven by user needs and adapted to meet the preferences of individual judges may be seen as encroaching on IT's ability to control systems development and support costs. Because user-driven configurable technology is more flexible, users will have fewer constraints and IT will have less control. The implementation team should anticipate those concerns and allay them through messaging that includes technical specifications and an explanation of the relationship of judicial tools to existing technology, especially the case management system.

## Implementation

Implementing judicial case flow management tools requires a different approach than implementing a case management system. Using judicial tools will require judges and their staff to learn a different management process. Many of the tools will be used while the judge is actually on the bench, presiding over court. Judges must be prepared to use the tools independently following either traditional classroom training or one-on-one training in chambers. Judicial calendars should be lighter during implementation to allow judges time to work with the new system, ask questions, and practice while training staff are on site.

### Pilot Implementations

Conducting a small pilot project may be helpful, giving the implementation team an opportunity to improve the tools, as well as the documentation, training, and communications based on results of the pilot. Pilot implementations can also provide success stories that will validate the importance of the new tools for other judges and support staff. Share success stories to raise enthusiasm for adopting these new applications throughout the courts.

When possible, include judges that are less enthusiastic about technology in the pilot process. These judges are more representative of the judiciary as a whole, and their ability to successfully utilize the new tools, and their positive reactions will be more credible than the enthusiasm of judges who are avid technology proponents.

Once the initial pilot has concluded, focus on sites where success can be replicated. This may mean delaying implementation for larger courts or for those that require unique configurations based on case types or workflow processes. The additional time spent on pre-site analysis for these sites will ensure the judicial tools are configured appropriately to help judges more effectively manage their cases.

## Phased Implementation

A phased approach may provide opportunity for incremental refinements. Many judicial tools are configurable, so implementation may be broken out by feature set, or by subset of the judiciary. An entire suite that provides many new tools and ways to manage judicial caseloads may be too overwhelming to adopt all at once. Consider implementing in phases at a component level:

- Accessing case data, documents and calendars.
- Signing and routing documents electronically; setting due dates.
- Using reports and statistics.

Rather than setting firm dates for a full roll out, the implementation plan should set a “Go live” date for an initial roll out. Consider using a quarterly implementation plan with a time buffer to allow for temporarily slowing down or stopping implementations to address any problems discovered in production. Setting an aggressive implementation schedule that is then repeatedly delayed can create a perception that the tool is not robust or production-ready.

A phased implementation can also make the initial training and migration more manageable. Balance the benefits against the added cost of training staff having to re-visit locations to provide training on individual components.

## Multi-Site Implementations

In some cases, there may not be an opportunity for a phased implementation. If this is the case, determine expectations for all user groups prior to going live. Judges, as well as all staff who have any responsibility for case management, will need to use the judicial tools. Where possible, staff should have the ability to preview and/or try out the software prior to implementation. Proper support, including on-site trainers and local support staff, should be readily available.

## Reporting

Comparative and **institutional metric reports** tell a judge how many matters are pending, how old they are, and where he or she stands in relation to other judges. They may not provide the information a judge needs to figure out *why* cases are in the posture they are in, and what work should be prioritized. Judicial tools can be used to

create **operational-level analytic reports** to address the information gap. Analytic reporting requirements should be documented as part of the judicial tool implementation process.

Judicial tools move statistics and reporting from the standard score card to an up-to-date report that provides drill down access to each case represented in report statistics. Chambers-level judicial tools with analytic reporting features allow judges to capture management information such as where motions are in a judge's disposition pipeline, who has responsibility for next action steps in a case, and what interim states of motion and case progression exist. Detailed reporting helps judges to proactively manage caseloads, identifying which cases are in danger of not meeting case processing goals, or are lacking a future calendar event.

Explaining the significant differences between analytic reports and standardized statistical reports is an important part of user training. Judges must be able to use the reports to proactively manage their cases. Support staff may also need to be trained to use these reports, as investigation into specific cases may be delegated to staff. Judges will become more comfortable relying on analytical reports as they see the benefits in helping them manage their work.

Be sensitive to the implications of displaying judge-specific performance metrics. The purpose of the tool is to enable the judge to better manage his or her work, not evaluate judicial performance.

## Training

The training approach for judicial tools should markedly differ from traditional case management system training. When court staff transition to a new CMS, they have the advantage of understanding the basic data entry and case management processing used with the previous system. Judicial tools force judges and their support staff to reimagine the way they will access cases and documents on the bench, and how they will manage case processing throughout the life cycle of the case. There is no system in place from which to draw comparisons. For these reasons, a robust training plan is important and should incorporate a variety of training techniques. Participation is essential.

Judges and support staff should be given the opportunity to test or practice on the software before actual implementation. Scenario-based training replicates their work. It may be helpful to have users practice with a copy of their own case management data, calendars, and assignment logs. These training sessions can provide invaluable experience with the new tools and decrease the anxiety about moving toward managing electronic files and processes. Hands-on training sessions also help the implementation

team recognize stumbling blocks in navigating the new tools. This information allows the implementation team to proactively address problem areas through additional training and documentation during the implementation phase.

Allocate training resources for both the implementation team and for judges and their support staff. Trainers will need to have a high level of expertise with the tools, as well as strategies for helping judges transition. A “train the trainer” approach, using local experts to act as lead staff for implementation, may or may not be a good approach. Until judicial tools have become established in the courts, training may need to be an ongoing responsibility for technology staff or vendor.

Web-based training sessions may help familiarize judges with the concept of judicial tools and how they can be used. Training sessions should be tailored to address the needs of specific groups of users, focusing on the specific tools needed in their work environment. Judges may benefit most from training that incorporates both formal classroom and small group hands-on training. Chambers training sessions can also help judges and their support staff discover how the tools will be used to automate workflow processes in their offices. Working together on this process will ensure everyone understands the software and workflow, which can help increase actual utilization. Including support staff during training can help prepare them to assist judges who may struggle to use the tools independently.

## Post-Implementation

Once the system is fully implemented, training and roll out activities generally become less intensive, and support and enhancement efforts increase. Because judges have been managing traditional paper case files for decades, it will take time to fully migrate to a specialized application that automates judicial workflow and case management processes.

## Measuring Success

Periodically, the team must evaluate metrics that demonstrate “before” and “after” the implementation of the tool. If order processing timeframes were an issue identified in the planning stages, compare the average number of days to process an order prior to electronic signatures in the current work queue versus the average number of days after implementation. Metrics should be captured regularly until the average number of days has stabilized at the new value, usually two or three months following implementation. Continuously and regularly evaluate progress. Use follow-on training to address areas where implementation goals fall short.

## Follow-on Training

Follow-on training must address two purposes: increasing a tool's value and utilization for judges and staff that have already received training, and training new judges and staff as they come in to the organization.

Initially, judges and their staff will likely adopt the highest value features while forgetting or overlooking others. Web-based video tutorials, user documentation, and regular newsletters are mechanisms that can be used to demonstrate the functionality and value of less-utilized features, share implementation success stories, and inform users about feature enhancements. Sessions at judicial conferences and training events can include the topic of judicial tools. Additionally, continuing education credits for technology training can encourage judges to stay abreast of new features and enhancements.

Incorporate judicial tools training into new judge orientation. As experts emerge at the local level, identify leaders to help train other users. Training sessions led by members of the judiciary will help create greater buy-in than training led by technologists.

## Support/Maintenance

One of the most important but sometimes overlooked aspects of system implementation is support and maintenance. Vendor maintenance fees are typically 15% - 25% of the licensing cost and provide for a vendor help desk, ongoing development of new releases, and bug fixes. Ensure the support/maintenance budget for judicial tools includes both the vendor's annual maintenance fees and an allocation for a local IT staff analyst or support engineer to provide in-house support and maintenance, manage the vendor relationship and communication, do on-site trouble-shooting, and handle any tasks specified in the agreement with the vendor.

Support costs for software developed in-house can be much higher than vendor support fees because costs are not shared with other customers. Over time, the cost of maintaining aging systems can climb dramatically. For custom-developed solutions, this cost can become overwhelming as the skillsets required become scarce.

## Improvements

Once judicial tools are implemented and users begin to rely on the new tools, users may identify gaps in functionality or request feature enhancements. Ideas will continue to increase as more judges begin to rely on the convenience the tools provide. Feature enhancement requests must then be reviewed and prioritized.

Create a judicial tool user group to help support stakeholders and collectively define the next set of deliverables. This group should represent the judiciary as a whole, not

primarily tech-savvy judges. The greatest benefit will come as all judges adopt the tools. Improvements should be aimed at the group as a whole.

## Conclusion

Judicial tools can help judges and court staff improve case processing, using technology to improve the way cases and documents are accessed and managed by judges on the bench and in other locations, throughout the life cycle of the case. Careful project planning and implementation will help the court improve judicial case flow management as well as general case processing and resolution.

New tools and processes that demonstrate clear value and improve the judge's ability to effectively administer justice will be successful. Many opportunities exist within judicial case flow management to employ judicial tools. Successfully implementing one or two tools will undoubtedly lead to new ideas from judges for more improvements.