Technology Investment Decisions

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Presented at:
ACLEA 47th Mid-Year Meeting
January 22 - 25, 2011
San Francisco, California

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Lynn P. Chard has been the Director of the Institute of Continuing Legal Education since July 1, 1993. She served as the Institute's Publications Director for thirteen years prior to becoming Director. A cum laude graduate of the University of Michigan Law School, Ms. Chard practiced law with the State Appellate Defender Office prior to joining the Institute of Continuing Legal Education (ICLE) in 1981.

As ICLE's Director, she has greatly expanded the continuing education opportunities for Michigan lawyers. Under her direction ICLE added technology training for lawyers, developed an online educational subscription service, added "certificate of completion" programs in probate and estate planning and in family law, created "boot camp" training for new law firm associates, and increased the number of major annual Institutes. She has led ICLE in developing extensive online resources including webcasts, "how-to" kits, banks of forms and seminar materials, forms and, ICLE books with continual updates and links to primary law.

She is active in the Association for Continuing Legal Education (ACLEA) and has held many positions including Director-at-Large, Publications Committee Chair, and editor of the ACLEA Newsletter. Ms. Chard has served on the Advisory Board of the CLE Journal, is on the Planning Committee for the CLE Summit, and is a member of the State Bar of Michigan and serves on its Membership Services Committee, its Annual Meeting Committee and Senior Lawyer Planning Committee.

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INTRODUCTION

Technology now permeates every aspect of a CLE operation--your customer records, your business operations, your marketing approach, your services and products, your customer support, your partnering relationships, your internal staff communication and training. Just as all of the aspects of a CLE operation must work together, the technology in place in your organization (the technology platform) must work together seamlessly for your organization to be successful.

The technology in place in CLE organizations must meet today's requirements and look forward enough to anticipate and make steady progress toward future goals. This requires a deep understanding of your organization's vision along with a clear view of market trends and best practices.

This paper will discuss writing visions, analyzing market trends and evaluating your current platform. It will give you step-by-step guidance on making sound technology investments as well as practical tips for evaluating specific software.

IT INVESTMENT DECISIONS REQUIRE THE BIG PICTURE

Begin with the vision

As you develop a vision and strategic direction, clearly identify the role you expect technology to play in addressing the needs of your customers and your organization. Identify the results you want to see. For instance, your vision might state:

"Apex CLE is the leader in short, interactive, online CLE that meets our state CLE requirements and allows attendees to verify what they learned."

A vision like this requires investigation and investment in technology to enable it, i.e. web casting capability with attendance tracking; a studio and related equipment for staging and editing short presentations; software for online self-testing, polling and live questions and answer sessions.

Keep in mind, the technology investment simply **enables** achieving the vision. In most instances, a non-tech staff person (or vendor) is responsible for achieving the desired

results. In the above example, the education director (with the help of marketing, customer support and tech) would be responsible for achieving the vision of being the leading provider of this type of online CLE. Identify who is responsible and how success will be measured right up front. This helps guide your investment decision and gets the right people involved in tech investment decisions from the beginning.

The process involves these questions:

1. Does your vision match user needs and desires? Or, if the vision relates to the use of technology for internal operations, does your vision match staff and organizational needs?
2. What are your tech platform options or approaches for delivering on you vision? For instance…..should you use an outside vendor or develop in-house? Is a subscription service via cloud computing an option? What are the ongoing maintenance implications for the various tech platforms or options?
3. What is the estimated cost of implementing the technology? Consider both the initial cost and the ongoing maintenance cost? In addition to the technology costs, what **non-tech** staff time or vendor fees will be needed to achieve the vision? Will the non-tech time be more or less, depending on your choice of technology?

None of these questions are easy to answer. However, they are the right questions to ask and your ultimate technology investment decisions will be more realistic and grounded if you grapple with them. If you don't have all the answers or information at the beginning, use your best estimate. As you proceed and learn more, loop back and update or correct your information. If new information calls for a revised decision about your investment in technology, don't be afraid to revisit your decision. Often technology decisions involve some unknowns so expect some stops and starts in the process. Ask the right questions and keep honing your decisions.

Consider market trends

Even though it can feel a bit like gazing into a crystal ball, analyzing technology trends can be useful in deciding which direction to take with your platform, which software packages to choose, and what best practices you will need to adopt. Understanding the latest consumer electronics can give you insight into what your customers will need in the coming years. Understanding the latest enterprise technologies can help you decide what changes you need to make to your technology infrastructure. Understanding who the main competitors in the market are can help you decide what companies to choose as your vendors.

Useful resources to keep you up to date on technology trends include

- The Wall Street Journal (www.wsj.com)
- MIT Technology Review (http://www.technologyreview.com/)

- Wired magazine (www.wired.com)
- Technorati (www.technorati.com)
- Harvard Business Review (www.hbr.com)
- Gartner (www.gartner.com)

As you analyze current trends, consider the risk your organization is willing to take when adopting new technology. Do you like to be a front runner or do you like to jump into the game once the bugs have been worked out? Do you prefer to stay with low risk companies, as Microsoft has been, or are you willing to contract with small and new providers? Understanding the level of risk your organization is willing to take with a particular technology can, in some cases, help you quickly narrow your options.

Build from your current platform

Technologies in organizations today are often dependent upon each other. With this in mind, you must consider how a new technology will fit with what you currently have in place. We strongly recommend maintaining a document that lists, for each piece of your platform (including hardware, software and network services),

- what it is used for and what business goals it helps to achieve
- its initial cost and any upgrade fees
- its yearly maintenance fee
- staff time requirements for maintenance

To give a full picture of your IT environment, it is also helpful to include a description of the support you provide. For example,

- What are your customer support hours?
- What are your staff support hours?
- What level of support do you provide?

Finally, it is useful to include a list of guiding principles that your organization uses to make IT decisions. These principles are typically based on your comfort with risk, the available staff resources, and budget considerations. For example,

- Do you prefer to buy software off the shelf rather than develop it yourself?
- Do you prefer open source or proprietary software?
- How much customization are you willing to do to your software?
- How much customization are you willing to do for staff?
- Are you a Microsoft, Mac, or Linux shop?

See exhibits A and B for a section of ICLE's platform documentation along with our IT guiding principles.

STEP-BY-STEP STRATEGIC PLANNING

Armed with your organization's vision, knowledge about market trends, and an understanding of your current platform, you can begin stepping through the IT strategic planning process.

The process provided here is similar to the process used to create a project portfolio. Many people use the Project Portfolio Management (PPM) framework for making technology investment decisions. The fundamental objective of PPM is to determine the optimal mix and sequencing of proposed projects to best achieve the organization's overall goals - typically expressed in terms of hard economic measures, business strategy goals, or technical strategy goals - while honoring constraints imposed by management or external real-world factors (Wikipedia, n.d.). The key goals for PPM as well as for this process are to answer the following organizational questions and to provide assessment tools to assess the IT projects within the organization.

1. Are we investing in the right things?
2. Are we optimizing our capacity?
3. How well are we executing?
4. Can we absorb all the changes?
5. Are we realizing the promised benefits?

Step 1 ► Create your own technology vision.

Using your organization's vision as a guide, describe how you see technology helping to advance your organization. To start, consider the following questions:

- How will staff use technology to do their work (e.g., creating content or organizing live events)?
- How will technology factor into your future products?
- What level of support do you see providing for staff and customers in the future?
- How large is your staff/budget?
- How will you make the best use of your resources? What systems do you maintain in house? What systems do you source through the cloud or hire a contractor to handle?

Remember that your vision should reflect the goals of your organization and explain how you plan to use technology to reach them. Applying a particular technology is never a goal in itself. The use of technology only supports the organization's goals.

Step 2 ► Align your guiding principles with your new vision.

Based on your technology vision, are there updated needed to the guiding principles to reflect changes in your organization's direction? If so, change the guiding principles.

Step 3 ► Gain executive buy-in.

Your technology vision and guiding principles are at the core of every technology investment decisions you will make. Review this with your organization's leaders and gain their support before moving ahead with your plans.

Step 4 ► Identify changes needed to your platform.

Identify how your platform needs to change to align with your vision. Consider whether you are currently spending money and resources to support technologies that aren't helping your organization move forward. We have found it useful to create a 2 to 3 year plan. Review your platform each year with the vision and principles in mind and list the following:

- The pieces of your platform that are expected to be stable and only require normal maintenance and upgrades during the next 3 years.
- The pieces of your platform that are becoming obsolete and will need to be replaced during the next 3 years.
- The emerging technologies that are not yet part of your platform, but should be incorporated during the next 3 years. Include what benefits you expect to see by incorporating this technology.
- The pieces of your platform that are not working toward the organization's vision and should removed.

Step 5 ► Create a plan.

With all of this information, you should be set to make a solid plan for year 1 and have a good idea of what will be on the list for years 2 and 3.

Finalizing the plan is often a balancing act between your current resources and budget and the inevitably long list of tech projects you'd like to complete. Here are some tips to make planning easier:

- Your goal is to move your tech platform as close to the vision as possible in 3 years. Be sure everything on your list is a step forward.
- First set aside the resources for the normal operational and maintenance items. For example, set aside time and money for staff support, software upgrades and computer replacements. These are the things that must be done to keep your operation running.

- Evaluate project business cases against each other to choose those that will provide the largest benefits. Business cases are described in more detail below. A sample is found in exhibit C.
- Consider whether there is a logical order for projects, whether any are clear revenue generators, whether any will respond to an immediate customer need, etc. How you prioritize the remaining work is largely based on the goals of your organization.
- Be aware of how you are spending your tech resources. For example, what is the amount of time you are spending on maintenance and operations, small revenue generating work, platform changing work (larger projects that may not have an immediate benefit), and pure research and development (where revenue may or may not be seen)? Deciding the mix that is best for your organization can help you decide when and if each project should be completed.

Exhibit D is a sample technology plan.

Step 6 ► Create your IT budget.

Time for the reality check. How much is your plan going to cost in staff resources, hardware and software requirements, license and maintenance agreements and outsourcing?

As mentioned in the previous step, be aware of how you are using your resources. Is your staff spending time on value-added services or are they providing services that are considered a commodity in the IT industry? Services such as storage, backup and many others are commonly outsourced today. With careful evaluation, you may be able to find comparable or even more stable and secure services for a lower cost than your staff can provide in house. With this approach, staff time is freed for work that is unique to your organization and strategically advantageous.

Step 7 ► Assess your performance.

Like any good plan, you will want to measure your progress toward project goals. There are many ways you can choose to measure your IT performance. Measure only what is useful and will be used by your organization. Some examples include the following:

- Mix: Are you spending your time as intended? For example, are you staying within your budgeted amount for maintenance? For research and development?
- Operations: What is the up time for the critical pieces of your system, e.g., Web site, ecommerce system, production environment? How many security incidences have you had?
- Support request: How many and what kind?

- Bug reports: How many developments are released and are bounced back because of bugs or other problems?
- Project benefits: Is your organization seeing the anticipated benefits of projects? The results of projects are important to measure but seldom are. Make sure the anticipated benefits of a project and the person ultimately responsible for achieving them are identified at the beginning of the project. In most cases, the benefits of a project are not the responsibility of tech staff. For example, the business office would be responsible for tracking the benefits of an ecommerce system. A seminar planner may be responsible for tracking the benefits of a new format of seminar. Remember, technology only plays a supporting role in any project. By tracking the benefits, you learn several things: (1) Are improvements needed? (2) Are we seeing any benefits we didn't anticipate and can we leverage them? (3) Is this technology worth continuing to invest in or should we find an alternative?

Exhibit E shows a sample IT scorecard. Many people wonder what the typical IT spending is. Gartner (www.gartner.com) provides excellent research in this area. A summary of their 2010 report is shown in exhibit F. You can see the complete report and others by completing a survey at http://inteco.com/technology/consulting/surveys/index.jsp.

Step 8 ► Communicate your plan.

Technology touches almost every aspect of a CLE organization today. It is never a bad idea to communicate your plan across your organization. With any luck, you will uncover any missing projects or conflicts while you still have a chance to work them into your plan.

Step 9 ► Execute your plan!

TIPS FOR CHOOSING A TECHNOLOGY

Business case

The Business case provides the necessary facts and data for understanding the value, cost, and benefit of implementing a project (Pennypacker & Retna, 2009). Deciding which business case gets funding and becomes a project needs to be decided within the project portfolio. All business cases are reviewed within the same framework. In particular, review how they relate to the strategic plan. Ultimately, the business case elicits a decision about the project, and you're given one of three choices: Go, No-Go or Wait (Pennypacker & Retna, 2009). The choice is not always easy when there are so many

factors to consider; having a good business case, and a well articulated (and understood) strategy goes a long way toward finding alignment and easing the decision about which business case becomes a project. Having the option to wait also ensures that good ideas aren't lost in time.

The business case usually comes as a well structured (and thorough) document that provides the rationale for the project. The business need must be clearly identified and how the project aligns with the strategic direction of the organization. There are many books, references and resources available in how to write a business case. This is beyond the scope of this document. What is important for the business case in relation to technology decisions is to gain a strong understanding of the opportunity and how it fits within existing strategies and technologies available to the organization. Once the business case has been approved further investigation toward the solution begins. This is often a critical decision making phase of the project. What solution are we going to choose? What are the attributes (and how are they weighted) toward making the final decision of the technology to support or enable the business opportunity.

See exhibit C for a sample business case.

Assessing technology

The use of an assessment framework can be very useful in assessing available technologies. An assessment framework can be built for what your organization sees as important decision factors. The framework below was built in a spreadsheet with six main decision areas;

1. **Product Features** – Does the product have the features that fulfill the business case requirements? List the high level features to be assessed against the requirements.
2. **Ability to deliver** – Does the vendor / solution provider / consulting firm have the proven ability to deliver the solution? Reference existing relationships with vendors, client references or online evidence to assess candidates' ability to deliver.
3. **Cost & Total Cost of Ownership -** When a solution is evaluated it should also consider two cost attributes;
   i. The initial cost of software, consulting and required infrastructure.
   ii. The expected life of this product.
   iii. The ongoing costs of maintaining the software and infrastructure.

   Solutions can vary greatly within these two cost attributes. Ongoing costs should also include all HR related costs of running the solution from an operational perspective.
4. **Sustainability** - This is a care and feeding question. Does the solution require a great deal of care or can it self-heal? The sustainability also includes the solution's ability to stay current to the business and strategic needs. This is more an effort question

rather than a cost. Sustainability can become a distraction for an organization or IT Team.

5. **Alignment -** Alignment includes many attributes, does the solution align with current technology infrastructure, the organizations current internal skills and knowledge, current roadmap and current strategy. Intellectual Property related issues also need to be aligned.
6. **Risk** – What risks do you assume by adopting the technology? What risks do you assume if you do not adopt the technology?

Importance		Solution 1	Solution 2	Approach 1	Approach 2	Do Nothing		Scoring
5	**Product Features**					2		*1 = Low - 5 = High*
2	**Ability to Deliver**					4		*1 = Unknown - 5 = Proven*
3	**Cost + TCO**					3		*1 = Expensive - 5 = High Value*
1	**Sustainability**					5		*1 = High Effort - 5 = Low Effort*
4	**Alignment**					2		*1 = Poor - 5 = Excellent*
6	**Risk**					5		*1 = Low - 5 = High*
	TOTALS					70		

It is important to note that just because one solution obtains the best score doesn't mean it is the best solution. There is an amount of intuition that can come into the decision. What is important is the depth of analysis and discussion that occurred among the team assigned with the decision.

In addition to evaluating the technology itself, you must also evaluate the vendors who can provide it. Pay attention to the strength of the company. Mergers and acquisitions can be bad news for your project. If you are look for low risk options, choose vendors who have a good reputation in the industry. Also consider the type of partnership you hope to have with the vendor. Do you expect support and customizations? Do you expect a

dedicated contact or simply an email address for submitting comments? Make sure the vendor is able to provide the type of relationship you are looking for.

CONCLUSION

There are many methods for creating a technology plan and making technology investments. The examples we've listed here are practical and work well for small to mid-sized organizations.

Whatever method you choose, making strategic technology investments first requires a broad understanding of your organization's vision, market trends and your current technology platform. With this information at hand, you are well prepared to evaluate and build an integrated tech environment that can support your organization now and in the future.

EXHIBIT A:
IT PLATFORM DOCUMENTATION (SAMPLE)

Hardware for staff

Why is this critical?

The majority of ICLE's work is done via computers. For staff to be able to work quickly and efficiently, their computers must be running properly. Software and patches must be up to date and the speed of the equipment must meet the speed required by our software. Regular replacements ensure that we maintain fully functional equipment and incorporate new technologies into our business.

Where are we now?

ICLE replaces desktop computers every three years. We are planning to move this to a four-year rotation. Our laptops are also replaced every three years, but this seems to be the right schedule. At the three year mark, we start seeing the laptops fail. We replace about 15 computers (laptops and desktops combined) per year. See the schedule below. We standardize our choice of computers when we can to make hardware maintenance easier. Currently, we purchase Dell computers because they offer the best price, quality, warranty and customer service.

ICLE balances cost, quality, maintainability and user needs when choosing hardware (including portable devices). We buy high end equipment for our staff to be sure the computers meet the requirements of the software we run. We also buy multiple large monitors when requested because people tend to need to view more than one document at once. We maintain a few spare (older) computers to cover hardware down-time and short-term needs. Newer laptops include webcams in anticipation of a more mobile staff.

We encourage the use of shared printers rather than individual printers in offices to reduce cost and maintenance time.

We reimburse for cell phones based on work need and approval by supervisors. We recommend phones that work best with our systems and will periodically ask people to test products on their phones. Reimbursement is handled through the business office but is typically at a rate of $50 per month.

Throughout the year, we monitor trends in technology and work style to see if there are new devices we should adopt. We research and test new equipment, including portable devices, to see whether it will coexist with our existing systems and determine if it is useful to our staff. We currently own, iPods, one iPad, a Kindle, a Sony e-reader, a tablet PC, and a digital pen. We would like to purchase various cell phones for testing. As part of the budgeting process, IS surveys the department managers about their hardware needs for the coming year.

We keep track of all hardware (computer, laptop) by the serial number and/or the University's asset tag, as well as the make and model. For computers, we track detailed hardware specifications, e.g. network MAC address, memory, hard drive size.

We keep track of where the equipment is located and follow University's standards for proper disposal of out of date hardware or nonfunctional hardware. All tracking information is located in our asset management database.

What is our cost?

Summary of costs	
	$
Initial Setup (includes desktops, laptops, monitors, printers)	$197,000
Yearly maintenance	$66,000
Staff time per year	$10,850 (350 hours)

Three-year cost estimate		
FY	**Budgeted replacements**	**Cost**
FY11-12	14 x $3,500 (laptops) 49000 8 x $1,500 (desktops) 12000 $5,000 (scanners and printers as needed) 350 hrs x $31/hr (staff time to set up)	$76,850
FY12-13	19 x $3,500 (laptops) $5,000 (scanners and printers as needed) 350 hrs x $31/hr (staff time to set up)	$82,350
FY13-14	17 x $3,500 (laptops) $5,000 (scanners and printers as needed) 350 hrs x $31/hr (staff time to set up)	$78,850

Cost per piece		
Staff laptops	$3,500 each	Three-year warranty included in price; includes laptop, monitor(s), docking station, monitor stand, laptop bag
Staff desktops*	$1,500 each	Three-year warranty included in price; includes desktop computer and monitor
B&W printer High volume	$3000-4000	No warranty. Replaced as needed
B&W printer Production	$2000-2500	No warranty. Replaced as needed
B&W printer shared by 5-10 people	$1000 – 1400	No warranty. Replaced as needed
B&W printer (single office)	350-400	No warranty. Replaced as needed
Color printer	HP 5500 Series $3000-4000	No warranty. Replaced as needed
Speaker laptops	$3,500 each	Includes three-year warranty; 2 are replaced a year
Scanners	Document Scanner $450-600 Flatbed 11x17 $1100	No warranty. Replaced as needed
Staff time	$10,850	Approx. 350 hours per year at $31 per hour

Industry standards we should investigate

We should investigate using thin client computers. This means when people work, they will access the software they need through our network rather than installing it on their computers. This could mean a substantial cost savings in hardware because we could buy less powerful computers.

However, for people to work, they would need to connect to our servers. (Similar to how people connect now when they work remotely.) Thin clients are becoming increasingly popular and will continue to grow in popularity as more people move toward cloud computing.

What is our level of risk?

We are noticing more stolen equipment since we started letting more people carry laptops. We are losing about 1 per year. These have all been speaker laptops. The thefts have stopped since we asked the administrative staff to lock up equipment at a seminar facility when it is there overnight. We work with the Risk Management department at the University to be reimbursed for the loss (minus the deductible). Staff are trained on the process for reporting a stolen laptop and IS has procedures in place for immediately changing passwords when we learn one is missing. Staff uses our terminal services and VPN access so that they do not store sensitive information directly on their laptops.

The three-year replacement cycle makes is slightly more difficult to stay up to date with changes in technology. For example, Dell didn't offer cameras for their business class laptops until this year. We are beginning to include that feature on our purchases, but it will take three years until everyone has one. In cases like this, we rely on peripheral equipment to make up the difference. (For example, we can buy cameras that sit on top of a monitor.)

Goals

- The research and monitoring of new technologies is informal now. We'd like it to be formal and proactive. We'd like to develop a way to report at Staff time at least twice a year on new technologies and possible applications for ICLE.
- Complete additional research and make a recommendation on thin clients before next year's budgeting cycle.
- Verify policies regarding mobile devices. When is need verified by supervisors.

Do we have enough staff backup?

Yes. Paul (primary), Michelle, Denise, Chris

EXHIBIT B:
IT GUIDING PRINCIPLES (SAMPLE)

1. In-house IT staff will focus on providing a strategic advantage while hosted services will be used to provide commodity services.

2. ICLE uses proprietary software for its servers and computers. We typically choose Microsoft products.

3. We are governed by the University's SPG.

4. We maintain a shadow accounting system so that we can track the information we need to run our business and meet the University's accounting requirements.

5. We reduce maintenance time by minimizing customizations.

6. ICLE thinks "Web First." Our online services are the core of our business and the intranet will be the core of our work environment.

7. We try to meet or exceed customer expectations. For IT at ICLE, that means
    a. our web services are available 24/7;
    b. we train staff and help provide excellent customer support;
    c. we choose web technologies that are considered industry standard; and
    d. the speed, quality, and the stability of our site meet customer expectations.

8. Security of our content and customer information is a priority. ICLE works with the University's security services to be sure all of our systems are secure.

9. We use a three-year planning cycle to anticipate emerging technology and align our platform to ICLE's vision.

10. Our structure supports rapid and continual development. This means we
    a. standardize on popular languages like c#.net
    b. store our content in XML
    c. provide individualized training when introducing new things to staff
    d. use a modular approach to development when we can

11. We do not find technical fixes for problems that are really content or policy issues.

12. We choose software and formats that will allow us to display our content in print, on desktops and on mobile devices from a single source.

13. We consider technology, content, production, maintainability, and design for all of the projects we work on.

14. We choose the simplest approach that will meet our needs. We raise the issue when we are asked to do something that will add complexity.

EXHIBIT C:
BUSINESS CASE (SAMPLE)

Business Case	
Project Name:	**Created By:**
Last Updated:	**Approval Date:**

The following template describes the contents of a Business Case document. The purpose of the document is to establish the business case for the project and define the key elements. The length of the document is usually 1–2 pages, as it is a high-level view of the project. The Business Case is completed by the project sponsor, who is usually a member of the Leadership Group.

Strategies and Initiatives

Is the project related to a strategy or key initiative?

Scope

- What are the project goals and objectives?
- What will be produced in products or services?
- What are the technology implications?
- What are the customer support implications?
- What are the maintenance implications?

Market and Competitive Analysis

- Who/what is the target market?
- Why would target customers be attracted to the product or service?
- What similar products or services are available currently within the organization, other like-minded organizations, or other service providers? Are any unavailable currently, but planned for the future?

Risks and Opportunities

- Are there significant risks or opportunities?
- Are there high-level mitigation or facilitation strategies? (Detailed risk/opportunity actions will be completed in project planning.)

Budget/Schedule

- Does the nature of this project require a target date?
- Are there fixed constraints related to budget or schedule? (Detailed commitments will be completed in project planning.)
- Is there a revenue target?

Staffing/Skills

- What key roles are necessary for this project?
- Are there unique or important skill sets that are required?
- Assign the following key roles:

  —Project Manager

  —Functional or Technical Expert

  —Project Sponsor (writes the business case, provides funding, champions the project; in a small can also be the project acceptor)

  —Project Acceptor (provides approvals at milestones)

Change Leadership Network
University of Michigan
Institute of Continuing Legal Education

EXHIBIT D:
ICLE DRAFT TECH PLAN (SAMPLE)

Summary

The majority of technologies we have in place are stable. If we did nothing but routine maintenance and upgrades during the next year, we could continue to offer our current set of products without a problem. Most changes recommended in this document are to help ICLE make progress toward its 2015 vision.

We will focus on four key platform changes during the next three years.

- Incorporate Web 2.0 software, such as video, tutorials and quizzing so that product planners can offer richer online and mobile resources.
- Establish database structures necessary to offer custom services such as certificate programs in specialty areas and online subscriptions for targeted audiences.
- Incorporate collaboration and social media services into our platform as the basis of our communications system. This will help transition our internal and customer communications to a "Web First" environment.
- Free up IT staff time so we can support a more Web intensive product/service model.

With our open developer position, we have an excellent opportunity to hire staff to meet these needs. A decision on how to fill the position will be made in January 2011. Our tech staff will remain at 8 (1 network admin, 1 project manager/desktop support, 2 audio visual, 1 developer/business ecommerce, 1 developer/new development, open position)

Stable requiring regular maintenance

The following pieces of our platform are stable. No major work will be required next year.

- Great Plains
- MS Access
- Crystal Reports
- MS Exchange
- MS Communicator
- HTML
- .NET
- Server hardware (aside from scheduled replacements)

- XSLT
- All network security systems (will conduct regular audit in November)
- Google search
- Budget Maestro

We schedule software upgrades with the goal of staying within two releases of the most current version. This is because after two releases, companies typically begin dropping support of older software and future upgrades become more complex. We plan to upgrade the following software.

EVE (custom programming for updating our online books): We will continue our conversion of the EVE tools from classic asp to .net.

SQL server: We have upgraded our SQL server to 2005. As soon as iMIS supports it, we will upgrade to SQL server 2008.

Microsoft suite: We will update our Microsoft suite with the Windows 2008 operating system, Windows 7 on our laptops and Office 2010.

VPN: Our VPN software must be updated within the next 2 years.

Decreasing in usefulness and should be considered for replacement

Our platform is reviewed each year to identify the pieces that should be removed or replaced. Replacement or removal of hardware or software is considered because of usability and maintenance time issues (search engine, Flash), low use by customers (WordPerfect), changing expectations on the Web (PDF), or obsolescence (CDs in books).

Here is the list of technology we will consider removing or replacing during the next three years.

Policy database/customer service area: This coordinates with the intranet and collaboration tool suite. See the emerging technology section for more detailed information. We would like to explore replacing our policy database with knowledgebase software to increase functionality and flexibility and lower maintenance time.

Audio and video formats: We plan to move to MP4 format. Using MP4, our video will work on desktops, laptops and mobile devices. We will standardize on one player (we currently support two). This will also reduce our overall maintenance and support time.

Contributor Central: This project coordinates with the collaboration software as well as the intranet project. Contributor Central has been supplemented by SPA for management of internal course planning work and the next step will be to revise both of those systems to add collaborative work tools.

Downloadable formats: Our users would have a better experience and we will save staff time if we expand the use of PDF in our seminar materials. We may also be able to save some time by eliminating WordPerfect files from our site. We will also consider expanding our use of HotDocs to provide more automated forms. (HotDocs continues to be the leader in document assembly among law firms.)

Added to the platform to meet strategic plans

Technologies like cloud computing, online collaboration tools, mobile devices and social networking are already common for Web users. They are influencing how we work at ICLE, how our customers use our products and the expectations we have for Web-based services. Adopting these technologies will be our focus during the next three years.

Cloud computing: Although past research has shown that cost savings will most likely be modest, adopting some cloud services will significantly decrease the staff time needed to support these services. During 2010, ICLE spent about 20% of its IS staff time on maintenance responsibilities. This time was made up of upgrades, backups, ISRequests, etc. During the next three years, our goal is to decrease this percentage to 10% of IS time. Good starting points for outsourcing are our backup services, redundant site and other noncritical services. We plan to test these on a small scale in FY12 and increase their use as appropriate in FY13 and FY14

Expanded use of terminal services: We will decrease maintenance time requirements and costs while providing increased flexibility for staff if we increase our use of our terminal services (the system we use for remote work). When people work inside the building they would connect to our terminal services just as they do when working outside the building. This would allow us to buy less powerful computers, which could be a savings of between 25% and 50% of our computer replacements per year (roughly $11,000 - $21,000 per year). This would also significantly decrease maintenance time because software will be installed in just a few places.

We will purchase basic equipment and test with a small group of staff in FY12. We will expand in FY13 and FY14 as appropriate. In addition to this testing, we will allow a small group to access our networks from their home computers. This would increase our flexibility for remote work and strengthen our business continuity plan. We will use the same technology described above. Our concern is that maintenance of home computers and initial setup would be too difficult for staff. Security is not an issue here. Our current security set up is more than adequate to protect our data.

Mobile display: Due to the rapid increase in use of smart phones and tablet devices, our customers are more likely to use our site on mobile devices than they were last year.

We will start by making our site mobile friendly, but developing it in a manner that allows us to maintain both the PC version and the mobile version from one set of files. Our goal is to have our site work equally well on a laptop and phone without doubling our site maintenance time. Mobile apps currently require multiple development platforms and distribution through various vendor stores, therefore, we do not recommend building apps until FY14.

Intranet and collaboration software: The intranet will be a very effective way to distribute information and serve as the central working place for staff. This will help with our remote work environment and continue to break down our silo structure. We will expand our intranet development over the next two years.

We will use collaboration software and services to achieve our intranet goals and also increase interactivity with our contributors and customers. This approach includes merging email, IM, video conferencing, shared document space, voting, workflow management, knowledge bases and other communication tools into one seamless work environment. It allows for shared and easily accessible documentation, relationship building and clearer communication across departments and products.

In addition, we will incorporate quizzing and tutorials to increase the value of our online content.

Social networking: Social networking could become the foundation of our communications with customers. It can help establish relationships with our younger audience and provide great information about our customers' needs. Our goal will be to communicate our brand promise via responsive information and relevant content within the context of social media conversations and to also increase our understanding of our younger audience's needs and concerns. Technology, although an important component, is not the most important requirement (relevant legal information is.) It may be appropriate to have social networking services hosted by common providers rather than supporting the software ourselves. Although it is possible to host these services ourselves, it would be added cost and time with little benefit.

Custom subscriptions: We will be able to create customized subscription and offer additional certificate programs in FY12 and FY13.

Planning Maestro and financial reports: We will complete the implementation of our budgeting software and financial reports in early FY12. This system will be turned over to the Business Office who will be responsible for training, general problem solving and staff support.

Project	Start	Finish	Budget	Resources
Upgrade tech				
EVE conversion from .asp to .net	1/2011	1/2012	700 hr	Internal + outsource
Microsoft suite upgrade	4/2011	7/2011	200 hr	Internal
SQL 2008 upgrade	5/2011	8/2011	100 hr	Internal + temp
Replace VPN software	7/2012	6/2013	40 hr	Internal
Retire/replace tech				
Policy database / customer service area	6/2011	1/2012	80 hr	Internal
Audio and video formats	1/2011	1/2012	150 hr	Internal
Contributor Central	1/2012	6/2012	100 hr	Internal
CDs replaced with online downloads	1/2011	6/2011	50 hr	Internal
Downloadable formats (including HotDocs)	7/2011	1/2012	80 hr	Internal
Add tech				
Cloud computing	7/2011	6/2014	300	Internal + help
Expand use of terminal services	3/2011	6/2012	100	Internal
Mobile display	6/2011	6/2012	150	Outsource
Intranet (including SPA)/collaboration software	5/2011	6/2012	300	Internal + outsource
Social networking	1/2011	12/2011	100	?
Customized subscriptions	6/2011	12/2011	100	Internal
Financial reports and marketing reports	1/2011	3/2011	80	Internal

EXHIBIT E:
IT SCORECARD (SAMPLE)

1. **Resource allocation**

   By IT and New Development functions

   - Business operations (goal 5%): _____
   - Customer support (goal 5%): _____
   - Existing product support and improvement (goal 30%): _____
   - Staff training and support (goal 25%): _____
   - Infrastructure maintenance (goal 10%): _____
   - New product development (goal 25%): _____

   By Unit

   - Print: _____
   - Online resources: _____
   - Live events: _____
   - Market research: _____
   - New development: _____
   - Administration: _____

2. **Operations**

   Peak time

   - Customer peak usage time: _____
   - % Availability during peak times: _____
   - Staff peak usage time: _____
   - % Availability during peak times: _____

   Critical service uptime

   - Amount of uptime: service to customer: _____
   - Amount of scheduled downtime: service to customer: _____
   - Amount of unscheduled downtime: service to customer: _____
   - Amount of uptime: service to customer: _____
   - Amount of scheduled downtime: service to staff: _____
   - Amount of unscheduled downtime: service to staff: _____

3. **Product support and improvement**
   - Number of ISrequests: _____

- % that are improvements/new requirements: _____
- % that are bugs: _____
- Web update and similar projects completed measured against revenue goals and time estimates: _____

4. **Contract management**
   - How many outstanding contracts and vendors: _____
   - Percentage meeting defined requirements and service levels: _____
   - Number of user complaints about a software: _____
5. **Security**
   - Number of incidents damaging reputation with the public: _____
   - Number of systems where security requirements are not met: _____
   - Number of individual user violations: _____
   - Training sessions on security: _____
6. **Staff training and support**
   - ISRequest: _____
   - Hours spent training: _____
7. **Financial performance**
   - Operations: $_____, % of budget: _____, expected variance: _____
   - Capital: $_____, % of budget: _____, expected variance: _____
8. **User satisfaction**
   Quarterly survey results

EXHIBIT F:
IT KEY METRICS FROM GARTNER, INC. (SUMMARY)

You can see the full report and others by completing a survey at http://inteco.com/technology/consulting/surveys/index.jsp.

IT Spend Key Metrics: Education Industry

- IT Spend as a % of Revenue – 2009: 4.3%
- IT Spend per Employee – 2009: $4,598
- IT FTEs as a % of Total Employees –2009: 4.4%

Cross Industry IT Spending

- Operational expenses: 70%, Capital expenses: 30%
- In-House:80%, Contractors: 20%
- Run : 66%, Grow: 19%, Transform: 15%
- Hardware: 19%, Software: 22%, Personnel: 38%, Outsourcing: 18%, Other: 3%

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Home bases and outposts – *two references when considering social networking sites like facebook and linkedin. And how these sites should work with your organizations web site.*
http://www.problogger.net/archives/2008/10/06/social-media-home-bases-and-outposts/
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