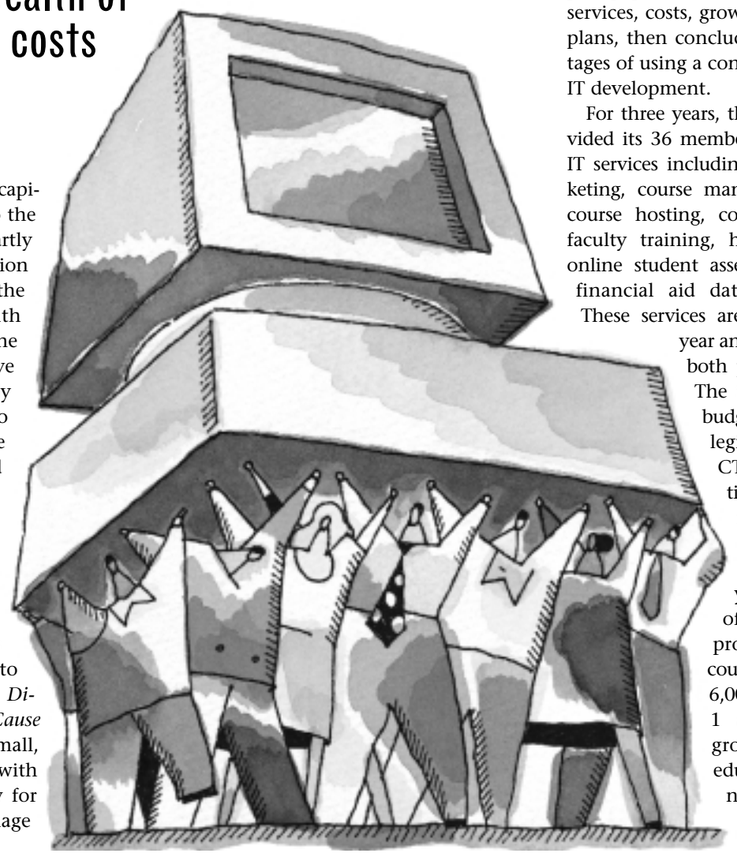
Consortial IT Services:

Collaborating to Reduce the Pain

The Connecticut Distance Learning Consortium provides its members with a wealth of IT services while containing costs

By **Ed Klonoski**



Those of us in higher education who work in information technology live in interesting times. (Remember the ancient Chinese curse?) The rapidly increasing importance of IT services to higher education means our authority, budget, and staff are growing, too. At the same time we're struggling with the problems familiar to our brethren in industry — staffing, maintaining current services, and rolling out new services. Unlike the for-profit sector, we struggle to arrange "venture capital" to underwrite dramatic upgrades to our infrastructures. Since most of us work for nonprofits, we make arguments for new resources based on increases in efficiency and desperate need.

Now along comes distance learning, with a whole new set of IT needs, including many that require specialized personnel. These new opportunities are hard to describe as either an increase in our efficiency or as desperate need. They represent classic opportunities to reorganize and expand delivery mechanisms and services.

In other words, distance education is the sort of innovation that requires recapitalization for higher education. So the question we face is at least partly financial: How can higher education fund emergent IT services like the new technologies associated with Web-based distance learning? The question also raises administrative issues: How can we efficiently deliver those services? What do those services look like? One answer to both the financial and administrative questions that I propose is consortial IT services — a "share the pain" approach.

By "consortial IT" I mean a small organization designed for collaboration, with the mission and resources to create solutions for emerging IT needs. According to Christensen in *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, creating a small, dedicated organization to deal with disruptive innovation is one way for an established industry to manage new products with new markets.[1] He argued that such a focused organization can succeed because it will measure itself by the degree to which others adopt its solutions. The success of an IT consortium should arise from its focus and its attention to the details associated with managing disruptive innovation. This concept proves key to understanding Connecticut's IT consortium.

The Connecticut Distance Learning Consortium

In this article I'll describe the IT services, infrastructure, budget, and successes of the Connecticut Distance Learning Consortium (CTDLC). By doing so, I hope to provide a model for schools looking to expand their learning technologies while containing the costs of development and maintaining pedagogical effectiveness. I'll detail our services, costs, growth rate, and future plans, then conclude with the advantages of using a consortial approach to IT development.

For three years, the CTDLC has provided its 36 member institutions with IT services including a Web site, marketing, course management software, course hosting, course development, faculty training, help desk support, online student assessment, a student financial aid database, and more. These services are supplied to two-year and four-year schools, both public and private. The $2.5 million dollar budget comes from the legislature, and the CTDLC earns additional revenue from fees and services.

In the 2000–2001 academic year Connecticut offered 13 online programs of 400 courses to more than 6,000 students. Figures 1 and 2 track the growth of distance education in Connecticut over the past three years.

Figure 1

Distance Learning Courses

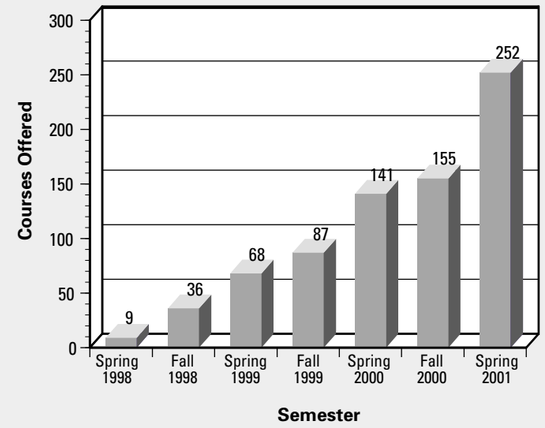
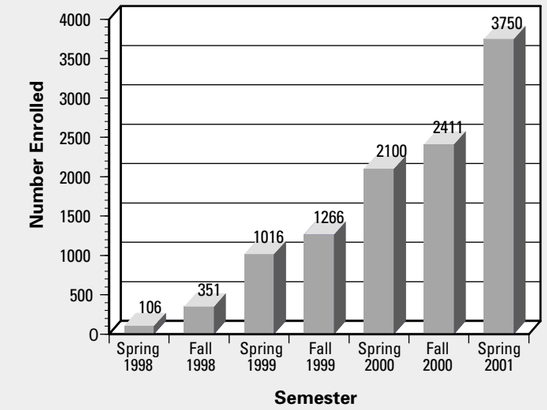


Figure 2

Distance Learning Enrollments



As you might expect, that growth rate has been dramatic. But the services that surround Web-based learning have turned out to be most critical to this growth.

Connecticut supported the concept of a central Web site for student information about programs, courses, and registration — all distance learning information — that the CTDLC would host. Producing the site was the consortium's first IT challenge. This central site has enabled the CTDLC to market online courses and programs for all its members, making joint marketing the first significant collaboration among the consortial members. Web technology makes such a venture practical, but most notable is the administrative change that such coop-

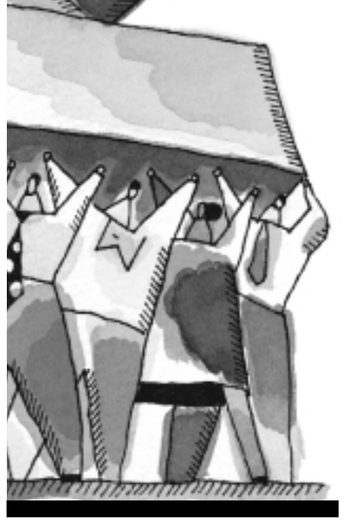
eration represents. Schools now recognize the advantage of supplying an outside organization with information about their courses and programs.

This joint marketing through a Web site led to the next technical development: an online database of information collected from visitors about their program interests. First the CTDLC began advertising the offerings of its members, then it developed a sophisticated tracking system to explore the resulting traffic. This information was passed back to the members, enabling them to market directly to these potential students. Again, a group approach to IT development paid dividends. Building a collaborative Web site led to a technical innovation — online databases — that served the whole community. Once the Connecticut General Assembly understood how this worked, they increased CTDLC funding for marketing to $150,000 per year.

The second, simultaneous technical challenge was to create a course delivery infrastructure — servers, course management software, server hosting, technical support, and a help desk for students and faculty. The Connecticut General Assembly wanted to build such an infrastructure once and let all of higher education share it as needed.

The CTDLC approached these decisions without the added complication of imagining how such a system would integrate with existing systems. (These events occurred four years ago; things have gotten more complicated since then.) While no one was forced to use the CTDLC infrastructure, the legislature refused to fund any requests for individual infrastructure from different schools. As a result of the General Assembly's plan, the CTDLC today provides a robust and developing support structure for its partner schools, including such items as a seven-day help desk, learning design, faculty training, and technical support.

From a management perspective, distance learning is the business of the CTDLC, so attention to technical detail and improvement of the infrastructure occurs constantly. In other words, the organization focuses on the particular



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technologies and processes associated with distance learning. The resulting improvements are available to all members, which (in theory) means that 36 IT departments don't have to find the resources to address distance learning. This approach had no trouble winning funding from the Connecticut legislature because it meant that higher education was working to avoid duplication of services — one of the legislature's criticisms of our industry.

How to Build a Funding Argument for Your Legislature

The IT departments of our member schools emphasize the reliable delivery of established services. They find it challenging to provide emergent technologies that require experimentation, user education, and new infrastructures, yet offer little return on investment. The new technologies that support distance education are expensive and labor intensive, but not financially rewarding at the outset. Even more difficult, these services affect mission-critical administrative decisions, require substantial time before they reach enterprise level, and demand new IT skills.

For example, a large number of faculty will use course-management systems (CMSs), quickly making CMSs a routine part of the higher education computing tool set. In addition, schools that have used CMSs for awhile are discovering that they need to link their CMS to the administrative database for purposes of registration, payment, and financial aid. This means that those making decisions about learning technologies must interface with those responsible for administrative technologies. Just the thought of this conversation is probably aging many of you prematurely.

When the CTDLC approached the Connecticut General Assembly, we proposed developing a consortium to provide wide-ranging access to such technologies as Web-accessible databases, online course-management software, and distance delivered student services.[2] This approach can share costs across budgets, thereby reducing the start-up price for any single institution, empowering wide-ranging experimentation by multiple schools, and concentrating specialized IT skills in a single place.

Consortial IT is a way of outsourcing developing technologies to a vendor operated by the consortial members. In this way, higher education can experiment with unbundling its services while not completely letting go.

The CTDLC was founded with this model in mind. The first services were faculty training and courseware production. The startup budget was $30,000 in Sloan Foundation money, $30,000 from our community colleges, and human resources from Charter Oak State College. We bought, installed, and operated a course delivery system (WebMentor from Avilar). We hired a server hosting company, bought hardware (one server) and a license ($15,000), and went to work.

In year two our legislature created our first budget of $200,000. This grew to $523,000 in the next year and then $2.5 million in fiscal year 2001. These dramatic increases in funding occurred because the Connecticut General Assembly viewed the CTDLC as a "utility," to quote Mary Beth Susman, Director of Kentucky Virtual University. Resources would pour into the CTDLC, and services and grants would flow out.

Because most state agencies (and this includes educational institutions) have a budget that reflects the services they're expected to perform, it's difficult for them to cobble together sufficient dollars to create new services. The CTDLC didn't have a historically defined set of services, so, in a very real sense, this made the CTDLC an institution where the state could create investment capital.

The Advantages of Consortial IT

Clearly, the first advantage of consortial IT is collaborative begging. Since all schools must approach their legislatures for money, often for projects that seem redundant, asking for common dollars to support a common infrastructure appealed to Connecticut's General Assembly. The argument that technology, all of which is state-supported for public institutions, should be used to achieve competitive differences between schools is a losing argument. Instead, we argued that technology should be considered part of the playing field and that large technology differences between schools is evidence of poor management.

Putting the state's distance-education resources in one place and letting the entire higher education community, public and private, share in those resources proved a winning argument. Asking for resources with one voice also demonstrates that higher education is approaching recapitalization from the standpoint of state investment in a critical industry rather than as individual investments in particular institutions.

To Connecticut's credit, we did not debate the issue of using public money to support programs at private colleges and universities. In fact, Judith Greiman, President of the Connecticut Conference of Independent Colleges, was a robust supporter of the idea of a consortial approach to distance education, and she is a founding member of our executive council. As our capacity to deliver online learning has grown, Connecticut's Office of Workforce Competitiveness (OWC) has begun collaborating with the CTDLC to bring continuing education offerings to a wider audience. The advantage of reaching out to all of Connecticut higher education through one organization has confirmed the wisdom of including the private sector in this state-funded initiative.

The opportunity for members to use our technology almost without cost permitted them to begin creating their distance learning programs without worrying about investment. Instead they could concentrate on the hard work of administration — finding faculty, registering students, marketing, and so on. The CTDLC underwrote the cost of the infrastructure, but, more importantly, it made the software decisions and incurred the inevitable risk of deciding wrongly. Here we have the second advantage of consortial IT — plausible deniability. Difficult decisions can be made on a trial-and-error basis without the associated career implications for being wrong or premature.

Teikyo Post University, a small independent college, best illustrates the success of this approach. One of the first institutions to begin working with us, they decided to launch their distance learning efforts using the CTDLC as their partner for technical services, faculty development, and marketing. They had limited funds to support this effort and needed to achieve full cost recovery almost immediately. One year later they had mounted 18 courses for 317 students. Within two years they produced one Associate and five Baccalaureate degrees, and during the 1999–2000 academic year they served 1,500 students. As the earlier chart of course offerings reveals (Figure 1), the growth rate for the entire consortium was even more dramatic.

A third opportunity created by a consortial approach to IT arrives in the form of experimentation. One challenge to IT is creating temporary solutions to problems while waiting for large vendors to develop more robust solutions. Consider a case in point: The CTDLC was chosen as one of 15 participants in the U.S. Department of Education's Demonstration Program in Title IV financial aid for distance students. The department required participants in the project to survey distance-learning students and develop a means of tracking students taking courses at several institutions simultaneously. Even the most technically adept members of the CTDLC weren't prepared to address this problem, and they certainly couldn't produce a solution for the 25 Connecticut institutions participating.

The CTDLC was already surveying its online students to discover their demographics, expectations, and satisfaction. Now came the opportunity to use IT to address a common problem. With Cold Fusion and Access the CTDLC designed an automated questionnaire that our institutional researcher could use to collect data and issue reports for the 25 participants in the program. The existence of the CTDLC made the state a candidate for the demonstration program and the perfect place to solve problems (or meet challenges) concerning inter-institutional registration and distributing financial aid to online students. That's exactly what was required — and increasingly what distance learning requires of IT.

In addition, this project required the creation of an online database to serve as a clearinghouse for tracking student enrollments in multiple institutions. Distance students enroll at a home institution but routinely use courses from host institutions. Financial aid departments at our member schools needed a way to track the academic progress of these students because none of the administrative systems — including the National Student Loan Clearinghouse — were doing so.

Offering services before robust solutions have emerged from large vendors concerns many in IT because such solutions require reallocating resources away from the core services that their

departments must supply. A consortial approach to IT can delegate small but widely felt problems — such as the need for an online database just described — to an organization with the resources and motivation to develop working solutions.

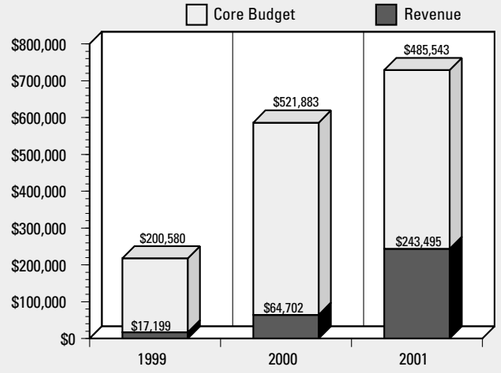
A fourth area of opportunity is part of the reason I am writing today. A consortial approach to systems development brings together the IT planning folks at multiple institutions and links them to what's developing around the country. These conversations are driven by the experiments that the consortial entity conducts, which become part of the research and development process for the members. The consortial IT group becomes a skunk works for its members, working with new systems and approaches before they are battle-tested, and sharing the wisdom gained from that pain with the larger membership.

For example, the CTDLC has underwritten and built an online registration and e-commerce system for two of its members. The system is being tested as I write this, with future plans to extend it into the student information systems at each of these institutions. The CTDLC is already getting requests from other institutions to participate in this effort. Those member institutions with large student information systems (SCT Banner and PeopleSoft, for example) will probably have such interfaces built for them by their vendors, but smaller schools will need support. Here again, consortial IT can level the playing field for schools throughout Connecticut.

Another example of how the CTDLC assists institutions with IT planning concerns integrating CMSs into student information systems (SISs). Currently most of our members deploy CMS applications without much thought as to how they will connect to the SIS backend. The CTDLC provides two CMS applications — Blackboard and WebMentor — and plans to add WebCT in fiscal year 2002. The idea here is that the consortium provides application hosting, technical support, help desk support, faculty training, and eventually the application programming interface (API) to connect the SIS of an institution to its CMS of choice. The CTDLC is taking the initiative — and the risk — of building a pilot solution to demonstrate how this process can work. In the process the CTDLC is also collecting information about how others handle the task, what the choices involve, and what the price is (financial and administrative). We're making purchases, mounting the learning curve, and sharing our hard-won wisdom. Our work increases our value as a partner while growing our expertise, so the project is a win–win effort for both the members and the CTDLC.

Figure 3

CTDLC Revenue as Percent of Core Budget



The Challenges of Operating a Consortium

If you have read this far, you must either be working in a collaborative IT venture or considering participating in one. The challenges involve funding, personnel, and attitude. We solved the funding problem in two ways: first, the CTDLC has successfully lobbied the legislature for resources, and second, we're recovering about 50 percent of our costs through the fees we charge for services to our members and our corporate clients. (See Figure 3.) So our financial model combines legislative support and growing self-sufficiency.

The personnel issue is much harder to address. Any technology company requires motivated, professional IT workers, but in the current economy (even with the shakeout in the dotcom world) finding and keeping IT talent frustrates many of us. In fact, finding and keeping IT talent may be one of higher education's most pressing problems. Further complicating our situation, the CTDLC is a state agency with a unionized staff. We hire people ready to move their skill set to the next level, then support them as they do that. As a result we have happy employees who are learning and growing, but probably paid less than if they returned to private enterprise. The risk comes from not hiring technical people with a proven track record in the particular technologies that we employ; instead, we offer our new hires the opportunity to grow their skills as they work. This winning strategy has resulted in almost zero turnover (we did lose one of our people to a member institution), so we'll continue to hire using this developmental philosophy.

Finally, let me offer a word about attitude, which is critical to the success of any collaborative effort. One challenge to consortial IT is to respect the policies and politics of its members. For example, the CTDLC supports faculty employed by member institutions, helping them build courses and programs. The CTDLC does much of the faculty training and all of the technical support for those institutions that use our resources. This work brings us into the heart of our member institutions, where we can have a powerful effect on faculty morale and student satisfaction. In order not to trip on this challenge, we have cultivated an organizational attitude best characterized as customer support. We take pride in offering our clients — faculty in this example — the best technical and pedagogical support we can provide while remaining absolutely clear that they are driving the process. This political sensitivity has made us popular and valued; the absence of it would destroy the effort before it could gain momentum. So the CTDLC staff trades stories about happy faculty and students the way any corporate help desk would, and we support each other as we face the challenges of supporting these groups.

Facing the Challenges

As the need for IT services in higher education continues to grow, the cost for these services also grows. Established IT departments struggle to address emerging issues created by distance education because these problems often require customized solutions, administrative changes, venture capital, and even mission changes. To add to the difficulty, the new economy challenges higher education to unbundle its services, and IT is asked to play a role in the deployment of new services, the reorganization of a beloved delivery system, and the unbundling of services never before outsourced.

Consortial IT offers a method for managing the expense, risks, and creativity such challenges represent. State legislatures will see campuses banding together to manage the change process as a positive step, a sort of field trial of the collaborations driving the New Economy. The resulting consortial organization will have the resources and mission empowering it to create and disseminate solutions.

Many of the "virtual universities" arising across the country provide additional examples of this approach, such as Kentucky Virtual, Michigan Virtual, and the Southern Regional Electronic Campus. While each has its own developmental history, all are working collaboratively to assist higher education in integrating technology innovations into the learning enterprise. We can learn from their hard-won lessons — and our own — to meet a variety of technology-centered challenges. *e*

Endnotes

1. C. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Boston: Harvard Business School Press, 1997).
2. E. Klonoski, "e-Lobbying: Marketing e-Learning to the Legislature," *The Technology Source* (Mar./Apr. 2001, J. L. Morrison, ed.) [http://horizon.unc.edu/TS/].

Ed Klonoski (eklonoski@cosc.edu) is Executive Director of the Connecticut Distance Learning Consortium in New Britain, Connecticut.