



CURRENT



ISSUES

2004

By Donald Z. Spicer, Peter B. DeBlois,
and the EDUCAUSE Current Issues Committee

This year marks the fifth annual EDUCAUSE Current Issues Survey. Administered by the EDUCAUSE Current Issues Committee, whose members review and recommend the set of issues to be presented each year, the survey identifies the issues that leaders in higher education information technology see as their most critical IT challenges.¹

Donald Z. Spicer is Chair of the 2004 EDUCAUSE Current Issues Committee and CIO for the University System of Maryland. Peter B. DeBlois is Director of Communication Services for EDUCAUSE and staff liaison to the Current Issues Committee.

Three overall findings from this year's survey are especially notable:

1. For the second year in a row, *Funding IT* remains the number-one IT-related issue in terms of its strategic importance to the institution, its potential to become even more significant, and its consumption of IT leaders' time. And for the first time, *Funding IT* appears on the "expenditure of most institutional resources" list, most likely indicating that more human resources are being spent on this issue. Three years of economic downturn, which reduced private giving and significantly reduced state budgets, have resulted in substantially lowered institutional budgets—IT budgets in particular. Although there has been an upturn in the U.S. economy recently, improvements in IT budgets are not likely to be seen for several years. In such an environment, the challenge is not so much lobbying to increase IT budgets overall as it is creatively distributing flat or shrinking resources, efficiently managing more complex infrastructures, and prioritizing among rising appetites for bandwidth and academic and administrative functionality.
2. Not only does *Security and Identity Management* remain among the top-ten issues on all four measures considered—strategic importance, growing in significance, demanding the campus IT leaders' time, and expenditure of human and fiscal resources—but it has risen dramatically in the last category (resource consumption): from eighth in 2003 to third in 2004. This jump sug-

gests that campus plans for improving IT security in the wake of the terrorist attacks of September 11, 2001, have moved into implementations and staffing changes, which are having a significant impact on budgets. Another factor behind the increase in resource consumption for this issue may be the many viruses and denial-of-service attacks that make networks vulnerable to costly downtime.

3. Two new issues have made the top-ten list in 2004: *Business Continuity / Disaster Recovery*; and *Governance, Organization, and Leadership for IT*. Beyond a logical tie-in with security concerns for the first of these, the appearance of the two issues suggests a growing realization of the strategic importance of information technology and of the close relationship of leadership and governance for this critical resource.

How do the 2004 results compare with last year's? First, *Strategic Planning for IT*, which continues to be the second most time-consuming issue for IT leaders, has risen from tenth to fourth among those challenges with the potential to become more significant and from sixth to fourth among those critical for the institution's strategic success. This is likely the result of needing to better align IT activities with the institution's priorities; always a recognized need, such alignment becomes a priority in hard times. Thus it could be a coattail effect of the IT funding crisis—that is, with IT funding continuing to be a critical concern, strategic planning is becoming even more important because of the recognition of the need to align planning and budgeting for information technology.

Second, perhaps related to the increase in importance of *Strategic Planning for IT*, the issue of *Governance, Organization, and Leadership for IT* has risen in terms of IT leaders' time commitment and now appears, for the first time, among issues critical for insti-

tutional success. As budgets tighten and new models of service delivery and staff deployment evolve, it is not surprising to see such a shift.

Third, *Web Services / Web-Based Systems* continues to appear among the top-ten IT issues in three of the four measures, but it has slipped in all three. It may be that it is becoming subsumed, for some institutions, under the perennially important issue of *Administrative / ERP /*

Quite
simply, total costs for information technology are increasing at a rate that exceeds the ability of colleges and universities to pay.

Information Systems. New ERP systems are being designed to support a self-service information-delivery model and, thus, inherently overlap with Web platform issues. For the survey, the issue of *Web Services / Web-Based Systems* was defined as including Web-based business strategies, integrating legacy and Web-based systems, managing content development and currency, stewardship policy, content management, enterprise portal strategy, and Web standards and architecture.

In other key findings, *Instructional / Course Management Systems* dropped off the list of issues expected to become more significant and slipped from sixth to eighth on the list of top-ten campus IT expenditures. Whereas instructional technology certainly continues to be a significant con-

Top-Ten Current IT Issues

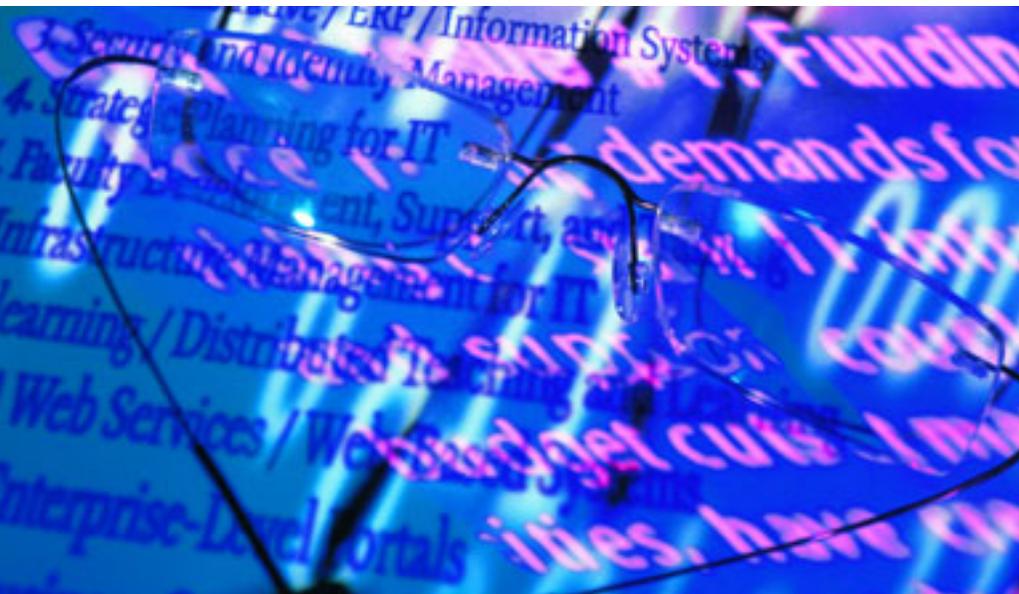
1. Funding IT
2. Administrative / ERP / Information Systems
3. Security and Identity Management
4. Strategic Planning for IT
5. Faculty Development, Support, and Training
6. Infrastructure Management for IT
7. E-learning / Distributed Teaching and Learning
8. (tie) Web Services / Web-Based Systems
8. (tie) Enterprise-Level Portals
10. (tie) Business Continuity / Disaster Recovery
10. (tie) Governance, Organization, and Leadership for IT

sumer of resources, we might infer that the *issue* of course management systems has spiked and is now folding into the suite of regularly supported technologies. *Support Services / Service Delivery Models* is new this year on the list of issues expected to increase in significance overall. With multiple years of budget cuts, the support crunch is back. This was a top-ten issue a few years ago, when the phrase “support crisis” was in vogue, for good reason. As

suggested above, it could mean that this issue is understood to be subsumed under the *Administrative / ERP / Information Systems* issue, which continues, for the fifth straight year, as the most resource-intensive area. Issues that appear on the expenditures list and that do not appear among strategic or emerging issues include *Electronic Classrooms / Technology Buildings, Student Computing, and Staffing / HR Management / Training*—typical ongoing

holders, engaged in planning for and funding information technology as a strategic institutional resource, assessing and aligning the value of IT investment with the institutional mission and strategies?

- Are long-term financial plans for information technology incorporated into the institution's overall planning and budgeting processes for effective cost management? Has the institution determined replacement life cycles for different technologies and incorporated renewal funding into IT budgets? Is the necessary financial investment committed at the time an IT project is approved so that funding will be available over the life of that project?
- In assessing return on investment, does the institution take into account the qualitative benefits derived from information technology, in addition to cost savings and productivity gains, to evaluate whether the IT investment has made a difference? Are expected benefits articulated at the time such investments are proposed?
- Are budget decisions based on accurate and realistic cost figures? Have the costs of delivering IT services been determined, and are efforts made to benchmark those costs against costs at peer institutions? Does the institution track expenditures for information technology institution-wide, monitoring distributed expenditures to ensure that *all* IT resources are leveraged, planned for, and budgeted coherently?
- Does the CIO work with the CFO to develop budgets that recognize the need for both operating and capital support, ensuring the coverage of maintenance, renewal, and ongoing staffing and support costs as well as investment in new systems and infrastructure?
- Has the institution standardized hardware, software, and support services as much as possible to enable economies of scope and scale in delivering baseline services?



for last year's list of issues expected to become more significant, the top three—*Funding IT, Administrative / ERP / Information Systems, and Security and Identity Management*—were indeed the top three on this year's strategic issues list. Finally, one issue not identified as emerging in significance last year suddenly appeared on the strategic issues list this year: *Governance, Organization, and Leadership for IT*.

In 2004, there have been two dramatic changes in IT expenditures. First, as mentioned above, *Security and Identity Management* moved from eighth place in 2003 to third in 2004, no doubt reflecting increased national awareness of security risks, institutional and state mandates to better secure IT infrastructures, and emerging effective IT security practices.² The other notable change in IT expenditures is that *Web Services / Web-Based Systems* dropped from third last year to seventh this year. This might mean that institutions have already made the major start-up investments in this area; or as

expenditures that tend not to be viewed as strategic.

Current Issue #1: Funding IT

Accelerating demands for IT services and rising costs for IT infrastructure renewal and support, coupled with institutional budget cuts at many colleges and universities, have created an ongoing crisis in higher education. Quite simply, total costs for information technology are increasing at a rate that exceeds the ability of colleges and universities to pay. The need for realistic strategies to fund information technology has never been greater. The following questions, based on guidelines offered in a recently published EDUCAUSE executive briefing,³ address the effectiveness of an institution's approach to investing in and funding information technology:

- Are institutional leaders at the highest levels, as well as key campus stake-

Current Issue #2: Administrative / ERP / Information Systems

Of the 645 institutions that completed the survey for the EDUCAUSE Core Data Service last year, only 23 percent had no



Comprehensive network access increases opportunities and also risks associated with information storage, transmission, and access.

plans for implementing an enterprise resource planning (ERP) system: 37 percent had already completed such an implementation, 26 percent were in the process of doing so, and 13 percent were considering it (<http://www.educause.edu/coredata/>). Projects of this scope demand large investment and commitment by institutional and IT leadership, both before and after implementation. Some questions that need to be addressed when considering or implementing enterprise systems include the following:

- What are the mission-critical factors driving the institution's decisions to implement enterprise system solutions? What service and process improvements are expected with successful implementation? Are there viable alternatives, such as enhancing existing legacy systems?
- If a decision has been made to implement new systems, should the institution partner to build, buy off the shelf, or integrate? If the institution is purchasing a commercial product, will the functionality of the system expand to accommodate integrating and interfacing with courseware systems, portals, and so forth?
- Is institutional leadership committed to the system implementation? Will the implementation include participation by stakeholders from both technical and functional areas? How will their expectations be managed, and have they resolved data-ownership issues?
- Does the new system fit the institution's technical strategy at the backend and network levels? Does the system comport with preferred data-handling strategies, such as authentication, security, and privacy?
- Will the institution adapt its business

processes to the best practices configured in the enterprise solution, to minimize or avoid customization? Have current processes and desired process improvements been identified, documented, communicated, and understood? Are the new functional and system requirements realistic? Will institutional leadership support the needed business-process changes?

- Has the institution analyzed personnel needs, both in terms of staffing levels and in terms of available technical expertise, for adequate support before, during, and after implementation? Does the implementation partner have sufficient higher education experience, seasoned staff, and a proven track record?
- Does the support plan identify the roles and responsibilities of technical, functional, and user groups and include adequate training for system users both during implementation and on an ongoing basis?
- If the implementation has been completed, does the institution get more timely and intuitive access to information, especially for strategic planning and decision-making? Have reengineered processes improved operations and increased efficiency? Has the system improved services for students, faculty, staff, and administrators?

Current Issue #3: Security and Identity Management

Comprehensive network access increases opportunities and also risks associated with information storage, transmission, and access. This access—together with

regulatory requirements, distributed architectures, and hostile elements on the Internet—presents challenges for funding and implementing security practices and required policies. Institutions need to consider the following issues:

- How will the institution balance the need for security with the tradition of open networking? Will a more secure environment be viewed as intrusive or controlling?
- Managing a distributed environment requires both a comprehensive technical plan and a complementary policy architecture. Are these being planned and maintained?
- Are the institution's policies up-to-date and enforceable? Do they reflect institutional priorities and strategies, legal regulations, and "best practices"?
- Are strategies in place to manage security as new technologies become available? Are the institution's security plans and policies reviewed and updated to reflect new technologies?
- Does the institution have trained staff to undertake the job of security? Is there a Chief Information Security Officer (CISO) or the equivalent to provide the leadership for and a focus on security? Do other campus units recognize this role?
- Has the number of security incidents and remedial costs during the past year led to increased funding for staffing and tools? Have these incidents highlighted the risks of underinvesting in security?
- Are institutional users aware of and implementing security measures (patches, firewalls, anti-virus programs) to protect their systems and

data? Does the infrastructure facilitate measures to improve security? Is the institution providing funding to facilitate and support such measures on a campus-wide basis?

- Many campuses are developing methodologies for authentication, authorization, and secure transmission of confidential information. Such technologies require policy and technological decisions. Is the institution engaging all stakeholders in planning and decision-making?
- Is the institution properly responding to regulatory issues (FERPA, HIPAA, GLB Act, USA-PATRIOT Act, DMCA)? Has the institution taken sufficient measures for compliance with these acts?
- Has the institution recognized and reduced the risk of identity theft by limiting the use of Social Security numbers?
- Has the institution reviewed/changed its practices to minimize the risk of identity-management problems caused by inadequate communication of personnel changes?

Current Issue #4: Strategic Planning for IT

Strategic planning for information technology must be based on three fundamental tenets: (1) information technology is a strategic institutional asset; (2) information technology is an essential resource for learning, teaching, research, and community partnerships; and (3) information technology is vital to the effective operation of the institution. The IT strategic plan must be presented and accepted as the institution's plan, not as the IT division's plan, and it must have executive commitment and leadership. Development of the IT strategic plan must be an ongoing process that involves all constituent groups in the planning and prioritizing processes. It is imperative to look to the future in an attempt to avoid technologies that may lead to a dead end or to significant lock-in and high switching costs. Key issues that must be addressed include the following:

- Does the IT strategic planning and budgeting process align with the institution's strategic planning and bud-

geting process? How are conflicting priorities resolved?

- Does the IT strategic planning process align with the academic strategic plans and the stated vision and mission of the institution? Is adequate time allowed to prepare for emerging technologies?
- Does the IT strategic plan align with the defined goals and objectives and the key performance indicators (metrics) of the institution? Is there a defined process for assessing, maintaining, and modifying the plan as needed?
- Are the goals and objectives of the IT strategic plan realistic? If there are significant obstacles to achieving the goals and objectives of the plan, how can these obstacles be overcome? Are critical or new skills required to meet the goals and objectives?
- Are all stakeholders involved in the planning process? Have IT steering

The IT strategic plan must be presented and accepted as the institution's plan, not as the IT division's plan.



committees or advisory committees been established to contribute to the planning process?

- Does the IT strategic plan provide a framework for efficient and effective services to the students, faculty, and staff?
- Has an assessment been performed to delineate the current IT environment? Have new IT functions and services been identified that are necessary to support the institution's vision, mission, goals, and objectives?

Current Issue #5: Faculty Development, Support, and Training

Colleges and universities commonly provide faculty with easily accessible resources for their continuous learning through faculty-development programs. With the rapid introduction of new technologies and the constant enhancements and upgrades to existing technologies, these programs increasingly incorporate faculty technology training and support models. Some of the issues related to faculty development, support, and training for information technology include the following:

- What faculty-development model will ensure that all faculty members benefit and are successful? Is a systemic approach (that is, a model that is supported by institutional leadership and that provides technical support staff for all faculty, not just leading-edge innovators) enough to ensure faculty success? What is the role of technology-proficient faculty in supporting and training their peers? Does a model that employs such faculty as mentors accelerate faculty success in incorporating technology, thereby improving learning?
- With the rapid introduction of new technologies and the constant enhancements and upgrades to existing technology, how can faculty find time to stay current? What are the benefits of providing e-learning options when delivering IT faculty training and support?
- What is the role of local, regional, and national conferences in IT faculty development? Can the benefits realized by the institution in supporting faculty

attendance at such technology conferences be measured?

- How should the institution reward faculty who are using technology to improve learning? How does the institution encourage faculty to stay current?
- How should the success of a faculty-development program be measured? Should success be based on the number of attendees, improved student satisfaction, improved student learning, and/or the percentage of faculty who continue to participate in ongoing technology training?
- Is it important to have a dedicated physical space for IT faculty development to ensure success? How does the institution encourage the use of teaching excellence centers after the newness wears off?
- Who is best equipped to train faculty in the use of new and existing technologies? How can technology training and pedagogy be integrated so that faculty will respect the program?
- Is there a role for an advanced technology champion, someone who experiments with new technologies, tries to understand the educational fit, and then champions their use?

Current Issue #6: Infrastructure Management for IT

In an *EDUCAUSE Review* article two years ago, Richard Katz posited that the technology foundation supporting an institution's business and academic processes—what he called the information and communications technology (ICT) infrastructure—is rapidly expanding beyond the traditional understanding of the network and its related wiring structures and “black box” devices.⁴ Although most users still take IT infrastructure for granted, the systematic upgrade and improvement of the ICT infrastructure is pivotal to accommodating the ever-expanding use of academic and administrative technology applications on campus. Without quality of service (QoS) functionality, multilayer networking, Fast and Gig Ethernet, and proper infrastructure deployment, emerging technologies such as Voice-over-IP (VoIP) and Video-over-IP (VIP) cannot be imple-

Effective monitoring and management of the network pays dividends in reducing overall operating costs and avoiding disruptive downtime.



mented. In addition to keeping the ICT infrastructure up-to-date, effective monitoring and management of the network pays dividends in reducing overall operating costs and avoiding disruptive downtime. In maintaining and upgrading the institutional network and related ICT infrastructure, a campus should consider several issues:

- Does the institution proactively plan for and implement a policy to replace computers and to routinely upgrade network devices, as well as periodically evaluate and renegotiate software license agreements? Does the plan include benchmarks for network utilization to assist in the planning for future upgrades?
- Does the plan include providing the proper resources and assets to adequately support the campus infrastructure, including 24x7 network support? Does the institution have redundancy built into its network design to limit network outages? Is training a priority for those who support the infrastructure?
- Since institutions increasingly depend on the Web to conduct everyday business, has the campus included redundant Internet gigapop access routes/points in its plan? Does infrastructure planning include accommodations to systematically upgrade key server farms that support the growing campus instructional support and ubiquitous Web environments?

- What information does the institution use to size its network technology infrastructure? Who determines the applications that will be running on the infrastructure, and how much excess capacity is enough? Does the institution have the ability to shape its bandwidth for priority services, and is it able to effectively manage recreational traffic on the network?
- Is the network and IT infrastructure ready for emerging technologies such as the convergence of voice and data, video-over-IP, wireless technologies, and mobile computing? How are time and money found to pilot network and other infrastructure advances while continuing to maintain and support the current investment?

Current Issue #7: E-learning / Distributed Teaching and Learning

E-learning, often described as distributed teaching and learning, has been steadily growing as both an alternative to and an enhancement of traditional campus-based learning. E-learning and distributed teaching and learning speak to a learner's needs for flexibility and mobility, while at the same time they offer institutions a way of addressing issues of access and capacity. Although e-learning does present new opportunities, it also presents some challenges and unique issues:

- How can institutions and partnerships develop a clearly articulated, well-understood vision and strategy to build a sustainable e-learning model? How aggressively should e-learning environments be promoted on campus? What changes are required in services and spaces on campus to enable e-learning?

2004 EDUCAUSE Current Issues Committee

Robert H. Clapp
Chief Information Officer
Le Moyne College (NY)

Joel G. Clemmer
Vice President for Library and
Information Services
Macalester College (MN)

Barbara Dewey
Dean of Libraries
The University of Tennessee

Leslie Maltz
Deputy Vice President for
IT Planning and Standards
Columbia University (NY)

Kenneth A. Moore
Vice President for IT and CIO
Sinclair Community College (OH)

Phil Moss
Interim Vice Chancellor for
Academic Affairs
Oklahoma State Regents for
Higher Education

Peter J. Murray
Vice President and CIO
University of Maryland, Baltimore

Celeste M. Schwartz
Vice President for Information
Technology
Montgomery County Community
College (PA)

Donald Z. Spicer, *Committee Chair*
Associate Vice Chancellor
for IT and CIO
University System of Maryland

Carl V. Wyatt
Vice President for Information
Technology
Texas State University–San Marcos

Gwen Zilm
Associate Vice President, Information
Services
Okanagan University College
(BC, Canada)

- How are faculty supported in the move to a more learner-centered e-learning environment? How can the institution work most effectively with faculty, instructional designers, librarians, programmers, and media specialists in developing new digital resources, including institutional information repositories and learning object repositories? How can the campus support the development of standards for the description of and access to digital resources?
- How can the institution ensure that students have the personal learning skills, time-management skills, and technology skills necessary for success in an e-learning experience? Will the institution be able to provide all students with access to support and services in an e-learning environment? How can the institution support students and faculty in the development of e-portfolios?
- What is the best technical infrastructure to support e-learning? Must the institution develop broadband networks to support multimedia in e-learning? How does the institution select and appropriately support course management systems? What are the opportunities and barriers associated with open-source development and open architecture for such systems? How does the institution ensure interoperability?
- How can the institution ensure quality in the e-learning experience, especially in assessing learning and course outcomes? Can the institution build an e-learning assessment model that takes into account educational theory and recognizes best practices? Can such a model be appropriate for a variety of e-learning experiences, including on- and off-campus, fully online, and/or hybrid learning experiences?
- What potential do new technologies such as videoconferencing, video-streaming, virtual reality, and online gaming environments have to enrich e-learning?

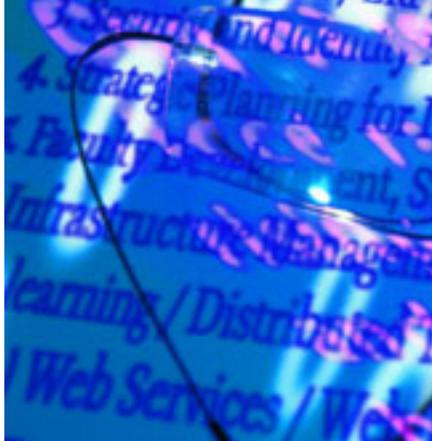
Current Issue #8 (tie): Web Services / Web-Based Systems

Web services is a relatively new term used to describe software standards that allow for

integration of different applications as well as the secure exchange of data over the Internet. The term can be misleading; it is often thought to refer to the myriad of services that are offered through a Web interface. In fact, *Web services* refers to a set of standards that enable “conversations” to occur between applications as easily as they occur between Web browsers and servers. These services are available over the Internet or over private (intranet) networks, they use a standardized XML messaging system, and they are not tied to any one operating system or programming language. When mature, Web services will shift the focus of the Web from “human-centric” to “application-centric.”

The Web has brought other new considerations into play as well. With much of the institution’s information in electronic form and continually changing, the issue of content management becomes much more critical. Also, the transition from host-based legacy systems to Web-accessible systems is still under way at most institutions. How to manage and provide coherent access to such a heterogeneous environment adds complexity to the enterprise IT architecture. Some key considerations include the following:

- Web services are still in the development and refinement stage, particularly as they relate to security standards. Many technical issues still need to be resolved; however, institutions would be wise to anticipate the use of Web services technology as they develop strategic plans.
- Future plans should include consideration of middleware technologies such as portals, central directory services, and security systems. The centerpiece of the last technology will be strong institutional authentication and identity-management systems that control access, support single sign-on, manage trust relationships, and protect privacy.
- The current marketplace for content-management tools is immature, but institutions would be wise to watch it closely.
- The contemporary strategy to provide coherent online access to services is by using a portal. However, the marketplace offers multiple alternatives, such



as ERP portals and course management system portals. The challenge will be how to integrate these.

- For now, institutions should approach new purchases expecting vendors to be increasingly sensitive and responsive to the desire for standard integration and to begin supporting this incrementally while working toward full integration.

Current Issue #8 (tie): Enterprise-Level Portals

Portals are now a prominent part of the Web architecture on which campus information sits and where the integration of data, information, and applications takes place. Avi Saha's definition of a portal as "a single integrated point of comprehensive, ubiquitous, and useful access to information (data), applications, and people" comes from the e-business perspective.⁵ The scholar's portal perspective, described by Jerry Campbell, emphasizes facilitating access to and the growth of scholarly digital information resources of all kinds, including searching across databases and offering a variety of supporting tools, resulting in a powerful distributed digital library.⁶ Martha Brogan's survey of digital aggregation services highlights the extensive efforts under way to create cross-searching capabilities that will handle not only an institution's resources but also cross-institutional resources and services.⁷ Also related to portal building is the emerging concept of the institutional repository, which Clifford Lynch describes as "a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members."⁸

A robust architecture that will manage multiple business functions, effectively

Portals

are now a prominent part of the Web architecture on which campus information sits.

aggregate search processes for accessing and managing information resources, and add and archive campus resources is a prominent goal at many colleges and universities. Thus, portals should

- serve as a managed signature entry point for targeted internal and external audiences;
- accommodate institutional branding and marketing by standardizing the portal appearance everywhere;
- offer a high level of customization so that users can alter the look and feel of their personal entry point;
- handle different levels of security for sensitive, confidential, or licensed information assets;
- feature robust search engines able to perform sophisticated broadcast searching over a variety of databases and data sources sitting on different platforms; and
- offer sophisticated tools for personal information management so that users can effectively organize and keep track of administrative and scholarly digital information, including easy-to-use intake systems for adding resources.

The challenges in accomplishing these goals include

- meeting the needs of the diverse campus communities as well as external groups such as alumni and prospective students;

- combining sophisticated functionality over a variety of platforms;
- managing the tension between standardization, branding, and creative approaches;
- keeping enterprise-wide portals and subportals current and accurate; and
- training users to effectively use the portal and its contents.

Current Issue #10 (tie): Business Continuity / Disaster Recovery

Information technology has become critical to the daily operation of colleges and universities. Indeed, current practices in administering, teaching, and communicating within academic environments would be vastly different without the information systems that many take for granted. Thus, the successful implementation and maintenance of business continuity and disaster recovery (BC/DR) planning and practice rise in importance. The threat of the Y2K bug and the tragic events of September 11, 2001, initially focused attention on these practices and caused many institutions to formulate plans. However, the blackouts in the northeastern United States, Canada, and parts of Europe during the latter half of 2003 and the continued penetration of technology into our daily lives have made BC/DR planning a process that requires ongoing attention.

Business process reengineering efforts or planning for the unexpected will take staff time, funding, knowledge, and support from the highest administrative levels. Institutions need to reassess their BC/DR planning. Continued success will require creative leadership and broad participation. Some questions that might arise during the planning and ongoing maintenance process include the following:

- What business processes depend on IT systems? Are critical business processes defined and clearly understood? Are individuals prepared to respond to a disruption? What information and training must be provided to individuals who might be directly involved?
- What IT systems are important at each level of the institution (individual, department, organization, institution)?

What systems are essential? What is the impact of a system loss? How long can the institution sustain an outage?

- Has the institution defined a process for declaring an incident, its degree, and the required response? Who will lead the incident response, and who will participate? How will the response team communicate among themselves? How will the institution communicate with external entities, including customers and the press?
- How does the institution assess risk? What level of risk is tolerable? Does this level vary by department or business practice? What are the one-time and recurring expenses that the institution can, will, or must allocate to mitigate risks?
- How does the institution maintain currency of its BC/DR strategy and plan? Should the institution build continuity-management costs into new system and service development?

Current Issue #10 (tie): Governance, Organization, and Leadership for IT

With funding for information technology continuing to be the major challenge, and with increasing pressures to deliver effective solutions and services at the lowest cost, CIOs appear to be growing increasingly aware of the importance of governance and organizational issues to their institutions' strategic success. Congruently, they appear to be spending more time on challenges associated with these issues. Institutional decision-making bodies, as well as state legislatures and governing boards, are questioning existing governance models and organizational structures. The qualities and abilities of IT leaders are contributing factors to IT governance and to organizational effectiveness and efficiency. Some of the questions that might be asked about an institution's IT governance, organization, and leadership for information technology include the following:

- What is the current IT governance model (centralized, decentralized, distributed, hybrid), and is it effective? Does the institution have effective policy bodies and advisory groups for information technology—for example, an

IT steering committee, technology council, faculty technology committee?

- Has an effective and efficient IT organizational environment been established, with effective IT teams, collaboration across organizational boundaries, and cooperative working groups?
- Is there synergy between IT organizations and support groups, and are they communicating effectively? Are there clear lines of responsibility and defined roles for IT professionals throughout the institution?
- Is the IT organization nimble, flexible, innovative, productive, responsive, and customer-service oriented? Does the CIO listen to campus needs and promote excellent customer service?
- Does the CIO have access to the president or chancellor of the institution, especially as a member of the executive cabinet, and is she or he able to influence decisions that are important to IT planning and strategies?
- Does the CIO develop and effectively manage relationships with internal and external constituencies? Is the value and importance of information technology being communicated by the CIO? Is the CIO effectively planning, implementing, and delivering desired outcomes and results? Is the CIO an advocate for information technology, for the IT organization, and for the institution?
- Does the CIO help define priorities, make timely decisions, and work on securing resources? Does the CIO have a thorough understanding of higher education and institutional issues and align IT resources to address strategic and operational needs?
- Is the CIO a change agent, proactively contributing to the discussions regarding new governance models and organizational structures?

Summary

The economic slide of the past several years continues to fan the flames of the IT funding crisis, demanding particularly deft leadership for campus information technology and creative management of resources on all sizes and types of campuses. The issue of *Security and Identity Management*, which began rising in impor-

tance for larger, public institutions in the 2003 survey, is now, in 2004, considered to be essential for strategic success and is demanding considerable resources among all institutions. Whether the reductions in resource allocations reported in this year's survey will be reversed when IT budgets return to stable growth patterns, and what new trends will emerge as information technology evolves, remain to be seen. **e**

Notes

Complete details and an in-depth analysis of the 2004 Current Issues Survey are published in *EDUCAUSE Quarterly*, vol. 27, no. 2 (2004), <<http://www.educause.edu/pub/cq/eqm04/eqm042.asp>>.

1. Of the 1,638 EDUCAUSE primary member representatives who received an e-mail invitation to complete the Web-based Current Issues Survey in December 2003, 571 (35%) responded. Survey participants were asked to check up to five of thirty issues in response to each of four questions.
2. See EDUCAUSE/Internet2 Computer and Network Security Task Force, *Effective Security Practices Guide*, <<http://www.educause.edu/security/guide/>> (accessed March 24, 2004).
3. EDUCAUSE Executive Briefing, "Funding Information Technology," December 2003, <<http://www.educause.edu/ir/library/pdf/pub4002.pdf>> (accessed March 24, 2004).
4. Richard N. Katz, "The ICT Infrastructure: A Driver of Change," *EDUCAUSE Review*, vol. 37, no. 4 (July/August 2002): 50–61, <<http://www.educause.edu/ir/library/pdf/erm0243.pdf>> (accessed March 24, 2004).
5. Avi Saha, "Application Framework for e-Business: Portals," *IBM developerWorks: Web architecture*, November 1, 1999, <<http://www-106.ibm.com/developerworks/web/library/wa-portals/>> (accessed March 24, 2004).
6. Jerry D. Campbell, "The Case for Creating a Scholars Portal to the Web: A White Paper," *ARL Bimonthly Report*, no. 211 (August 2000), <<http://www.arl.org/newsltr/211/portal.html>> (accessed March 24, 2004).
7. Martha L. Brogan, *A Survey of Digital Library Aggregation Services* (Washington, D.C.: Digital Library Federation and Council on Library and Information Resources, 2003), <<http://www.diglib.org/pubs/brogan/>> (accessed March 24, 2004).
8. Clifford A. Lynch, "Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age," *ARL Bimonthly Report*, no. 226 (February 2003), <<http://www.arl.org/newsltr/226/ir.html>> (accessed March 24, 2004).

RELATED RESOURCE



The Current Issues page (<http://www.educause.edu/issues/>) on the EDUCAUSE Web site offers further information on the Current Issues Committee and the annual surveys, on ongoing and emerging campus issues, and on EDUCAUSE policy issues.