

The CIO Constituency Meeting was held on Tuesday Oct. 26, 1999 at the EDUCAUSE meeting in Long Beach. There were approximately 90 people in attendance.

General Discussions – full group

Over the past few years, there has been discussions relating to the need for a CIO-only listserv so that the Higher-Ed CIO's can communicate amongst themselves. It has been suggested that such a listserv is needed and that only one representative per institution be allowed to participate.

Discussion: Participants discussed both sides of the issue with the majority of those present favoring retaining the current practice and not establishing a CIO only listserv.

EDUCAUSE is now over a year old. Is EDUCAUSE meeting your needs? If not, how is it falling short?

Discussion: In general, the participants seemed to feel that the merger has created an organization that seems to be serving the needs of the higher education community. It was also expressed that it may be too early to really evaluate since EDUCAUSE has been in transition over the past 18 months. We need to re-visit this at the next CIO constituency group meeting.

Dues issues for small institutions seem to continue to be an issue.

Discussion: The discussions on the topic of dues was very heated with the smaller institutions, mostly previously members of CAUSE only, feeling that while some have experienced a 4X increase in their dues, they feel that they have not received a comparable increase in value received. There was an expression that some of these smaller schools may have to make the decision to not renew their membership in EDUCAUSE if something is not done to make their dues more in line with their previous dues.

Is there a place where "IT Best Practices" can be found. If not, how should we go about establishing such a repository?

Discussion: The discussion centered around the amount of effort required to maintain a repository of "BEST PRACTICES" with little desire to undertake such a project. It was recognized that the existing EDUCAUSE award programs are recognizing "BEST PRACTICES".

Suggested ROUNDTABLE Topics

1. IT Staffing Issues

IT staffing continues to be a problem in Higher Education and the near full employment that we are experiencing is only making the problem worse. Finding qualified applicants is getting more difficult. Typically, the salary ranges offered in higher education are not competitive with the private sector. What are our options?

Discussion:

The main issue is that the Human Resources department does not understand the problem. The suggestion was made that we should have EDUCAUSE sponsor a meeting in which the CIO's bring the Directors of their HR department to discuss the problems and look for ways to address them. Other group discussions centered around:

- Recruitment
 - College Work Study
 - Internships - internal/external

- Co-ops
- Incentives
 - Tuition Waivers
 - Graduate School
 - Startup Packages
- Retention
 - Salary
 - Fringe Benefits
 - Tuition
 - Quality of Workplace
- Staffing Levels
 - Job Descriptions
 - Functionality
- Salary
 - Market Forces - Unions
 - Geographic Polls
- Evaluation and Review - Merit
- Incubators
 - Internships
- Sensitivity of Upper Management
- Leadership/Management

2. Measurement/TCO Issues

As we try to evaluate the efficiency of various aspects of our campus IT operation, we usually try to compare with similar institutions on various measures. The University of Texas use to collect some data and the Green report provides some data that can help in this effort. However, we need a more comprehensive data collection effort to assist us. Establishing common data definitions is critical. EDUCAUSE is preparing a survey and we should try to make sure that it produces some useful comparative data between "like" institutions.

Discussion:

KNOWN EXAMPLES

- Gartner Group (\$\$\$)
- Benchmarking Exchange (vertical – outside of higher education)
- COSTS (WWW.COLGATE.EDU/KLEACH/COSTS/COSTS.HTM)
- National efforts (e.g. Australia)
- State efforts (Florida Bank, academic outcomes)
- Institutional studies (Indiana University)
- EDUCAUSE (future)
- Campus Computing (K.C. Green)

TENSIONS

- Cost ←-----→ Quality
- \$\$\$ ←-----→ Outcomes (state institutions)
- Centralized ←-----→ Distributed/Decentralized
- Comprehensive ←-----→ Targeted
- Service Based ←-----→ Activity Based
- Wide Participation ←-----→ Narrow Participation
- General Definition ←-----→ Detailed Definition
- High Level View ←-----→ Low Level View

CONCLUSIONS

Try several different approaches – perhaps for different institutional types – different objectives

3. **IT Funding/Outsourcing**

Over the past few years, the pressure to expand the role of It and assume additional responsibilities has continued to grow. In most cases, these additional responsibilities have not been accompanied via an equivalent increase in budget. What are our options?

Eliminate existing services to provide funding for new services?

Refuse to add new services until appropriate funding is identified?

Try to stretch existing resources to provide new services?

Is outsourcing an option? Has anyone had success with outsourcing? Pros and Cons.

Discussion:

Funding for new services

- Eliminate existing services
- Refuse to add new services
- Managing expectations
 - Prioritization
 - Strategic planning
- Stretching existing dollars
 - Standardization
 - Training
 - Renegotiating existing contracts
 - K-12 partnerships (helpdesk)
 - Leveraging lab technicians
 - Leveraging operators for helpdesk
 - Leveraging janitors for classroom support
 - Extensive use of students
- Identify new funding streams
- Outsourcing
- Partnerships
- Charge for services
- Cross subsidies
- Centralization
- Smoothing budgets

New Revenue Streams

- Selling services at a higher rate
- Resell hardware/software
- Creative financing
- Advertising?
- PC orders via bookstore

IT Funding/Outsourcing Areas

- Printing
- PC installation
- PC repair
- Internal wiring
- Training
- Online applications
- Special projects
- System conversion/upgrades
- Modem pool
- Technical assistance from previously employed staff (as consultants)

4. **Desktop Management**

As the desktop becomes more and more complicated by the addition of both thin and fat clients, the process of managing them continues to increase in complexity. Help desks find it very difficult to provide assistance when they have many desktop configurations (both hardware and software) to be familiar with. Discussion topics might include:

- Asset Management
- Wake on LAN
- Software Distribution and
- High Availability (particularly in classrooms where failures can sometimes mean the cancellation of a class)

Discussion:

Purchasing

Faculty & Staff - centralize the purchasing effort – try to standardize as much as possible for the purpose of support.

Student – Standard PC (notebook) with software IMAGE – have “tight” recommendation or requirement.

Establish Hardware Minimum Standards

- Vendor(s)
- Configuration
 - Processor speed (min.)
 - Memory (min.)
 - Disk Capacity (min.)

Some universities are offering faculty/staff incentives to purchase from the established standards such as offering a 50% subsidy if the recommendations are followed.

Establish Software Standards

- OS (WIN 95, 98, NT)
- Office automation
- E-Mail client
- Browser
- Standard desk top image for ease of support
- Alternative is to go with CITRIX type solution

Desktop Management Tools

- Zenworks
- SMS
- Remote Control
- Software Distribution Methods - ranked
 1. Website
 2. CD
 3. Sneaker-net

Establish Service Level agreements

5. **Middleware**

One of the current hot discussion topics that will soon become a major concern for most of our institutions is that of Middleware. Directory Services, Authentication, Authorization, PKI, Single-Sign-On are just some of the issues that we will be facing as we move our campuses forward in to

take advantage of new technologies. What are the issues we will face as we begin to move forward and are there any good models that we can follow to minimize problems?

Discussion:

"Middleware" is loosely defined as software designed to coordinate and integrate disparate applications and/or work environments to create and support the image of an integrated, collaborative environment.

Some examples of middleware:

- Directory Services
- Certificate Authority
- Encryption
- Distributed Computation
- Distributed Storage
- Instructional Support
- Web-enabling for Legacy Applications
- Measurement and Logging
- Security
- IMS Tools
- Voice over IP
- Calendaring
- Group Collaboration Support
- E-commerce

Some general issues:

1. Pricing
 - pricing scales tend to be out of reach for colleges, universities
2. Dependence on services
3. Interoperability
 - interfacing middleware with other campus systems
 - interfacing functionally equivalent middleware across campuses, institutions
4. Building campus consensus
 - departments tend to act autonomously and may make incompatible selections
 - investment in existing choices diminishes enthusiasm for moving to standard (whatever that means) systems
5. Long-term management
 - who manages
 - where do additional resources come from
 - how standardize after getting off to a random start
6. Losing control of change
 - people tend to go in own directions, without coordination
7. Integrated environment
8. Retrofitting existing applications
9. Influencing vendors

Some specific issues

1. Directory Services
 - some directory software priced by number of entries
 - need to include digital images, other rich media
 - need to interface with existing databases

- virtual environment: directory-enabled virtual network
- data dictionaries
- interoperability with other directories (on campus and off)
- metadirectories
- 2. Certificate Authority
 - certificate authority priced by number of certificates
 - need institutional pricing for institutional business
 - commercial services for merchandising?
 - different scheme for federally-required certificates?
- 3. Encryption
 - standards and interoperability
- 4. Distributed Computation
- 5. Distributed Storage
- 6. Instructional Support
 - choice of packages
 - interoperability
 - access (via web browser?)
- 7. Web-enabling for Legacy Applications
- 8. Measurement and Logging
 - Australian universities have developed algorithms for chargeback
 - Australian university uses time quotas for students
- 9. Security
- 10. IMS Tools
- 11. Voice over IP (ATM, etc.)
 - chargeback models
 - need static IP addressing
- 12. Calendaring
- 13. Group Collaboration Support
- 14. E-commerce

The I2 group has a project on this topic under the leadership of Ken Klingenstein and there is a lot of information at Ken's WEB site <http://spot.Colorado.EDU/~kjk/i2/>

6. Technology Assisted Learning/Media Distribution

We are all facing issues related to Technology Assisted Learning, ranging from assisting the teacher in the classroom or delivering instruction to the remote learner. What are the issues?

Synchronous vs. Asynchronous

Point-to-point vs. multicast

Scalability

Standards

Storage/Delivery

Support (Helpdesk, Library, Bookstore, Laboratory access, Mentoring, etc.)

What are some examples of "Best Practices" that might be reviewed to better understand what can be done?

Discussion:

ISSUES

- Faculty Development is key
 - Time
 - Money
 - Support
 - Example – College of Mont St. Joseph
- Critical mass with faculty

- Standards – you have to be ahead of the faculty since if they already have a preferred tool/software package, it is almost impossible to get them to change to some other tool
- Intellectual property rights - faculty does development (sometimes with much assistance from a support staff) but who owns the material?
- Maintaining Community
- Competition
 - Corporations – Motorola University, University of Phoenix, etc.
 - Name brands – Harvard, Stanford, MIT, etc.
 - British/American Open University
 - Will your institution “play” or “not play”?
- Distance learning and life long learning
- Media rich class vs. distributed learning

7. Security

Within the academy, we have been always prided ourselves on providing information/data access within our community. At the same time, we are being faced with increasing needs for security as it relates to sensitive information that is needed to properly operate our institutions. What are the strategies for selecting and implementing an enterprise-wide security plan? Are there some “best practices” ?

Discussion:

Application Level

- Authorization
- Authentication
- Host Level
- Network – Firewall
 - Shared vs. Switched
 - In-domain/out-of-domain
- Encryption

Organizational Level

- Security Policies
- Enforcement
- What is protected
- Customer and partners

Physical Security

- Hardware - Serverel, Switches, etc.
- Data - Backup, Encryption, Retention
- Personnel - Staff, Students, Consultants, Vendors, External, **HACKERS**
- Facilities - Building, Room, Closets, Manholes, Power
- Resource Disposal - Software, Hardware, Data, Reports, Paper
- Disaster Recovery - Business Continuity

Strategies

- Involve Auditors
- Broad-Based Committees
- Formal Assignment of Responsibilities
- Executive Sponsorship - Empowerment
- Simulation - Testing (Response – Ability)
- Contingency Plans
- Staffing and Training
- Outsourcing
- Network Access and Connectivity
- Inter-Organizational Cooperation

Best Practices

- Education/Awareness
- Kerberos
- Integrated Directory Services - controlled
- Backups! - Networked!
- Lots of Money! - Choose the Battle!
- Security Officer
- Password and Account Management/Maintenance

8. Knowledge Management Systems

One of the concepts that is showing good potential for high impact on our campuses is that of Knowledge Management Systems. As we try to organize our intellectual property of various types to make it more accessible, what are the issues we will need to be aware of and are there any existing systems that might be capable of addressing the needs of higher education.

Discussion: No participants chose this topic.