



Chief Information Officers Constituent Group Meeting Minutes

Session: Tuesday, November 4, 1:00 – 4:00 p.m. (150 participants)

Facilitator: **Scott E. Siddall**, Assistant Provost for Instructional Resources, Director of Instructional Technology, Denison University

CIO Constituent Group Leader Scott Siddall convened the meeting at 1:00 PM by introducing Brian Hawkins who gave the 150 attendees an overview of the new Core Data Service (CDS).

Core Data Service:

Brian reported that the CDS was based on member needs and is an online *service* that provides very practical information when participating institutions access the online data for benchmarking. Summary findings with more than 120 tables are now available in print (see <http://www.EDUCAUSE.edu/coredata/>). Brian noted that "Data can shed a lot of light on impressions." The EDUCAUSE staff worked carefully to ensure the integrity of the CDS data by cross-checking and confirming data entries. Respondents are encouraged to use the CDS as an online service where it has its greatest ease-of-use and value. The 2004 CDS will commence in January, 2004 and will have new trend analyses and ratio data when results are in. As in 2003, there is no charge for non-EDUCAUSE members to participate, and only those institutions that participate will be able to access anything more than the aggregated data.

Breakout Sessions:

Siddall then outlined the four breakout topics (taken from suggestions made by the CIO listserv subscribers) and introduced the facilitators for each topic, whose notes from their sessions are below:

Network and Infrastructure Issues, Theresa Rowe (Oakland University)

"We're on fire, but it's okay because we're sinking" (John Isenhour, Kennesaw State University)

The main areas of concern in providing networking:

1. Security – maintaining security in a academic environment, exploring what it means to have "security" in an academic environment.
2. New skills are required to manage the complexity of device, connectivity and service level.
3. The challenge of providing sustainability and scalability of networks, people supporting networks, and the knowledge base required.
4. Bandwidth – need to manage growth, to understand demand, to pay the bill.
5. Staffing – staff are overworked and need support.

Major shifts in the profession that were noted:

- From functionality to vulnerability.
- From centralized specialists who know, to educating client users who must be knowledgeable and responsible – when we have an entire team trying to keep up, how will the individual computing device owner manage security on all of their individual devices (their home computer, laptop, cell phone, converged cell PDA, tablet, pocket PC, etc.).
- From a focus providing service to an individual, to a focus of understanding what happens when the individual connects to a network community.
- The number of devices and the source locations of those devices is changing.
- Meeting bandwidth demands was less of a concern than security.
- The demand for bandwidth continues to grow but meeting the demand for growth was not perceived as a requirement – some thought the demand insatiable.

Network Security

We asked what the top issue was, and we heard: Security!

Issues:

1. How to find the time and effort to act, to prepare, to train, to gain necessary knowledge
2. How many fulltime employees are needed, especially as networks grow
3. Volume of incidents, viruses, worms, and size of network
4. Firewalls and intrusion detection
5. The problem of the visiting computer – the computer that is not owned by the university, but must meet a common operational standard for the security of the network

From the network staff perspective:

1. Knowledge base seems to expand all the time as new issues are introduced
2. Overwork
3. Lack of common security view – why do I spend time and expense installing a firewall only to poke so many holes in it to meet campus and external demands?
4. Forensics – the need to develop investigative techniques, documented trails, common procedures

Policy Issues

1. Control
2. Academic freedom
3. Visiting computers and other network devices (student owned, guest owned, faculty member owned)
4. Service stratification – most are stratifying network services, security strategies and rules across 4 groups: Student owned computers, University owned computers, Visitor owned computers, and IT computers.

Network Management

We developed a grid to represent the complexity of network support:

Network Support Complexity

Access type > Client access V	Wired	Wireless	Dial-up	Other ISP service
Student				
University-owned computer				
Visitor, non-university owned computer				
IT Staff				

-----<<<< Location >>>>-----

The support grid represents the different service groups, the type of access the service group chooses, and from where the service is initiated. For example, a request for tighter security to the network group, forces that group to walk through each possible point on the grid. One solution might not work for all grid points – hence the complexity and high cost. It also demands that the network be able to identify you, know your relationship based on the device with which you are connecting, and where you are at the time of connection.

Expanding expenses of the full network environment

1. Need to explain reasons and rationale of costs involved
2. Handling external mandates (Graham-Leach-Bliley, Sarbanes-Oxley, HIPAA, etc.)
3. Capital vs. operational – is funding a capital expense or part of the ongoing operational budget – and how to get the operational budget increased to handle this. In our discussion, we asked how many were pursuing leasing and a few raised hands. Most are seeking base operational budgets. Some are seeking bond issues.
4. Wiring, electronics, security, ISP services and bandwidth are all areas to be funded – not just the “network”.
5. What funding sources are available?

Changing and expanding focus that includes technical aspects and functionality:

1. who are you
2. what access
3. where are you
4. shift from functionality to vulnerability
5. require end user to be more responsible and knowledgeable (owner of multiple systems becomes a one person IT dept.)
6. rapidly shifting functionality and technology means we play continuous catch-up

Bandwidth

1. Differentiate between academic and recreational/extracurricular—volume varies between these 2 – how do we provide service level agreements, and what is our commitment in tight budget times to recreational/extracurricular network activity?
 2. reliability
 3. last mile – given the support grid – how can we guarantee service to the last mile – or communicate the service level agreement, especially with online learning?
 4. location of users
- Do you have a formal and funded long-term plan for cable plant? A: Yes ~50 percent
- Do you have a formal and funded long-term plan for network electronics? A: Yes ~50 percent
- Do you have a formal and funded security plan? A: Yes ~25 percent
- Do you have a formal and funded bandwidth/traffic management plan? A: Yes ~25 percent
- Do you have scheduled maintenance time? A: Yes ~50 percent

Connectivity

- Are you providing modem service for the entire community? A: Yes ~ 10 to 15 percent
- Most are seeing a decrease in any provision of dial-in services by school
 - Increase in VPN service for faculty and staff, traveling employees
 - ~50 percent of schools are negotiating for ISP service on their own and the remainder is part of a consortium or state system

Staffing

Given the complexity of the network and the demands, how are the staff holding up?

- Lack of staff
- Too many hours spent on the job
- No redundancy or cross training
- About 30 percent reported having a dedicated security officer, and about 50 percent reported having a position that was blended network and security.
- When security is a separate position, some report conflict between security concerns/staff and technical networking staff.
- What are the other 20 percent doing for security? Didn't have time to investigate.

Training

1. lack of time
2. lack of money
3. experience is hard to find

What can CIOs and leaders do:

- Distribute management of firewalls, etc. – as we implement centralized security standards, can we distribute management of the systems?
- Humane on-call – managers and CIOs need to establish humane on-call working rules
- Need to fund tools and systems to manage network and problems
- Need to manage expectations

- Need to provide increasing complex network services we are capable of maintaining – make sure we have a supportable maintenance trail
- Changing roles for IT personnel – recognize the changing environment and help staff with change.

The CIO Profession, Eugene Spencer (Bucknell University)

We started the conversation noting that a recent survey identified 261 different titles for the role of CIO (Chief Information Officer) in Higher Education. The role varies greatly depending on the institution involved (in addition to traditional IT functions, the CIO is often responsible for some of the following: library, telephony, media services, print shop, TV/Radio production, CATV, security, distributed learning, Web services, grant writing and institutional research). The emerging differences between a Chief Information Officer and a Chief Technology Officer were also mentioned.

The group discussed the credentials needed by a CIO (EDUCAUSE seems to be the only group thinking about this issue in Higher Education). Those credentials include a broad understanding of what technology might do for the institution, a political sense (negotiating & facilitating), the ability to manage change, a desire to publish and speak professionally, an understanding of customer service, an ability to manage projects and significant experience managing complex budgets and staff. The job of CIO is a lonely one in Higher Ed.

To be successful, the CIO's leadership style must fit the needs of the campus and the needs of the person to whom the CIO reports. The term "stealth strategist" was mentioned as an important skill. The CIO must be able to maintain good customer relationships and must spend a significant portion of their time in a "chin up" mode (thinking about the big picture, keeping the staff and the campus focused on the long-term goals).

Several professional development activities were discussed for future CIOs. The EDUCAUSE Management Institute and Leadership Institute are a good place to start. The Frye Institute is a good resource. Other resources like the IT Leadership Program (Santa Clara University) and the Society for Information Management were mentioned. Connections with corporate and public sector CIOs, training in "people skills" and simply making mistakes are also good growth opportunities.

Finally, the group discussed several troubling signs for CIOs during the last 12 months. In particular, the article "IT Doesn't Matter" (Harvard Business Review, July 21, 2003) seemed to have a chilling effect on the group. There is a sense that the CIO role is being gradually marginalized ("what I did 2 years ago doesn't matter!") "Can IT be outsourced?" and "do we still need a CIO?" are questions some campuses are asking. Nonetheless, there is an acknowledgement that IT decisions are changing the nature of the institution, largely in a positive way.

We left the conversation with the question "where does a CIO go next?" Will CIOs move to higher levels within Higher Education? If so, what must we do to prepare?

Resources and Expectations, Thomas Gaylord (University of Akron)

- Enrollment is growing
- Quality of education is increasing
- Software costs are up ~10 ; IT budgets are up maybe 1.5 percent
- 24 by 7 is expected (email, peer-to-peer, etc)
- Return on investment models are more difficult for public than private institutions
- Reallocation of resources is not possible
- Can't perform a business process analysis before ERP implementation to determine savings
- "Our job is not to save money. It's to provide services"
- Flat budgets but we're still expected to increase support to academic areas, yet providing support is becoming more complicated than ever (outsourced help desk, loss of personal touch, perception of less service).
- Mobility solutions such as wireless and two year equipment refresh cycles add to problem
- Some schools are increasing their refresh cycle, lowering technical specifications
- Cost of providing support to late adopters ("clueless constituents") is higher than for others
- More schools getting into new markets such as distance education, creates pressure to invest and keep pace
- Demand will always outstrip supply; we must articulate policy and set levels of expectations
- Many academic departments have "tech experts" now; increases need for communication
- New models for managing bandwidth:
- Filters and policies in place to throttle selected uses such as the "entertainment bandwidth")

- Students pay for excessive bandwidth needs
- Some schools are providing wireless notebooks in library, but wireless infrastructure must be funded institutionally
- About 1/3 of schools represented in session have a technology fee; use of funds based on advice from a priority-setting committee, but priorities must be in line with institutional strategic plan so that new priorities can be assessed objectively
- We need to use project management methods for all projects, not just large projects
- We need to assess customer satisfaction – done now by about 1/3 of schools represented at this session

Organizational Challenges, Pat Albanese (Mt Holyoke)

What determines the degree of centralization or decentralization?

- Culture of the institution
- Economics – hard times push toward centralization
- Funding model of institution
 - (departments/colleges control or central funding doled out to departments/colleges)
- Where does IT report – president? provost? elsewhere?
- Type and size of organization
- Current leadership
- Economies of scale
- Customer satisfaction
- How “IT” is defined
- Perceived risks, e.g. recent security issues

The Challenges

How to bring in the business side, stakeholders and customers and engage them in IT
 Current economy
 Support in departments/colleges

Time of opportunity

Need are high, resources are low
 Departments that need help are more apt to engage in dialog

What EDUCAUSE might do

Create roadmap

- What are arguments for/against centralized, decentralized?
- What things are best centralized? Best managed locally?
- What might go either way?

How to manage?

- Engage customer, communicate, listen, educate, know their problems, help them understand your challenges
- Set up core service teams headed by non-IT people
- Establish advisory and decision making university teams to guide policies, set priorities, fund initiatives (committees established by president or provost – not the CIO, but must involve CIO leadership)
- Policies and standards needed to be established but also explained why are they what they are
- Service level agreements
- Provide annual report on IT including what you do, what are you successes and what are the challenges, where's the money going, why does IT cost so much?
- Be data driven – not emotional and not a whiner
- Help customers/departments/colleges be aware of support costs and include in grants, purchases or equipment

Higher Education IT Security Briefing

The CIO Constituent Group meeting closed with the “Higher Education IT Security Briefing” presented by Gordon Wishon, Doug Pearson, Mark Bruhn and Bob Kvavik. Much of the content of this presentation is also detailed in the track and current issues sessions for the meeting titled “IT Security: The State of the Practice in Higher Education” and “IT Security: What’s Our Status Within Higher Education?”

Submitted by:

Scott Siddall (siddall@denison.edu)

Assistant Provost for Instructional Resources, Director of Instructional Technology,
Denison University