Overview

Use of information technology (IT) has become pervasive in higher education. Although modern technology empowers individuals, that empowerment is dependent on effective central infrastructure, including sound policy and standards. Even with individual empowerment many university functions are based in central systems. Effective management of important IT resources requires institutional engagement. IT governance provides a means to foster institutional planning while retaining the advantages of intentional decentralization.

Recent developments highlight the risk to the University in our current state.

1. No effective formal mechanism exists for institutional IT planning and coordination. As a result, institutional efforts, such as disaster planning and failover systems, may be incomplete, and unnecessary resources are expended.

2. Threats to privacy, productivity, and safety, ranging from spyware to identity theft to e-mail bomb threats, are increasing. A summer 2007 exposure of private student data on the university’s web site and its subsequent caching in world-wide search engines highlights both the risks and the complexity of remediating such problems after the fact.

3. Protection of university intellectual resources is inconsistent. The capacity to restore critical data is essential to sound technology management. However, a recent USNH Internal Audit consultative review of backup procedures concluded:

   We have not seen consistent policies, procedures, and controls over backup practices at UNH. Perhaps this is because of UNH’s decentralized management structure. (Media Backup at the University of New Hampshire, Review Report # 2007-16-A, p. 1)

4. According to another Internal Audit consultative review, “parties responsible for enforcement are difficult to identify in our decentralized management structure” (Advisory on UNH Information Technology Policy, Report #2007-02-A). Understanding and awareness of existing policies and development of new ones are hampered by the lack of adequate university-wide coordination. For example,
   • In a recent review of e-mail policy, it was evident that even long-serving CIS directors were unsure if the policies applied to UNH or to CIS only.
Many operational policies that might protect the university’s systems are absent due to difficulties in achieving university-wide consensus through existing structures.

A fall 2007 violation of the Acceptable Use Policy by a residential university student disrupted the entire university’s computer operations. Although IT governance *per se* will not prevent such events, it will aid in bringing coordinated community understanding and support to policy development and enforcement.

5. Federal and state regulations and institutional compliance standards are increasing. In addition to the long-standing Family Education Rights and Privacy Act (FERPA), more recent requirements include these:
   - Health Insurance Portability and Accountability Act (HIPAA)
   - Gramm-Leach-Bliley (GLB) Act
   - Communications Assistance for Law Enforcement Act (CALEA)
   - Federal Information Systems Management Act (FISMA)
   - New Hampshire Notice of Security Breach legislation (RSA 359-C:20)
   - Federal standards are being developed that will require institutional certification, based on industry standards, for identity management.

6. Actions by third parties are affecting the university community.
   - Increased intellectual property actions under the Digital Millennium Copyright Act, such as the Recording Industry Association of America (RIAA)’s subpoenas of suspected violators.
   - Information requests to which the university must respond institutionally and promptly under revised regulations regarding electronically stored information (ESI) discovery requirements.

In all these areas, the university needs the capacity to act institutionally. Yet only about 50% of the IT staff at the university report directly to the central IT unit, Computing and Information Services. As a result the CIS management structure is not an adequate vehicle for providing university-wide coordination and deliberate planning.

**IT Governance at the University of New Hampshire**

Currently information technology governance at the University of New Hampshire is complex and incomplete.

- Weaknesses in IT governance for UNH-only systems include:
  - Lack of senior leadership engagement
  - Incompleteness or absence for some important systems
  - Lack of formal written charters identifying scope of responsibility
- There is no regular, systematic university-wide analysis of IT at UNH.
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Office of the Assistant VP & CIO

- CIS manages about 50% of total IT salary expenditure at UNH. Governance of CIS does not equal governance of the university IT function.
- If governance approaches exist outside CIS, they do not communicate with the Chief Information Officer through a structured approach.
  - There is not adequate opportunity for technical staff across the university to interact and influence technical decisions.
  - The Technology Policy and Planning Group, the one university-wide group, does not fulfill a strategic role.
    - Many senior management representatives do not attend, or they send substitutes.
    - There is little common interest among the participants. As a result, the group tends to be CIS-driven and serves mainly as an information-sharing forum.
  - USNH currently has a formal IT governance process. UNH does not have a formal mechanism for setting its goals and providing institutional input into the USNH process.
  - UNH has several effective governance groups that should be retained. For example, The Committee on Instructional Technology (CIT) and the Student Information System (SIS) Steering Committee are productive groups. These and certain other current governance groups will be even more effective in an enhanced institutional IT governance structure.

Proposal for a New IT Governance Model

The new governance system proposed here is based on four assumptions:

1. UNH will adopt an information technology portfolio management approach.
2. The governance model will be designed around communities of interest that support the portfolio concept.
3. Senior leadership engagement with the governance model will be effective.
4. The Chief Information Officer will provide overall leadership to the IT governance system.

IT Portfolio Management

As with a financial portfolio, an IT portfolio can be designed to achieve the University’s desired IT goals with a deliberate assessment of risk and resource commitment. IT portfolio management prioritizes new project proposals and evaluates the value of existing IT systems and services. To be included in the portfolio and receive central support a system or service needs to be approved through the governance system. An example of this process is the recent movement of the Alumni/Foundation Advancement
System from a departmental to a university-wide system. As a result of this change, the new advancement system would be part of the portfolio.

### Characteristics of UNH IT Portfolio Management

<table>
<thead>
<tr>
<th>System/service</th>
<th>Type</th>
<th>Governance</th>
<th>Resources</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNH Portfolio Systems &amp; Services</td>
<td>Meets institutional need based on either general use or strategic importance</td>
<td>UNH IT Governance Structure</td>
<td>Institutionally determined, including start-up and on-going resource requirements</td>
<td>Governance determines whether through CIS, another IT support group, or a hybrid approach.</td>
</tr>
<tr>
<td>Non-portfolio Systems &amp; Services</td>
<td>Meets need of local unit- college, department, or program</td>
<td>Locally determined within institutional policies and standards..</td>
<td>Locally determined, but impact on institutional services (for example bandwidth) will be evaluated.</td>
<td>Locally determined, but impact on institutional services will be evaluated.</td>
</tr>
</tbody>
</table>

Examples of portfolio (institutional) systems and services: Central e-mail system, phone system, student information system, MyUNH portal, Blackboard learning management system, university wired and wireless network connectivity, advancement information system, supported desktop productivity tools (e.g., MS Office).

Examples of non-portfolio (local unit) systems and services: specialized discipline-specific academic systems, Health Services record system, cooperative extension e-mail system.

**IT Communities of Interest**

Effective IT governance is based on communities of interest. This proposal is based on three such levels of community involvement.

**Level One: Institutional Community of Interest**

The institutional community of interest will be represented in the governance system by a Steering Committee for Information Technology (SCIT).

*Purpose:* support long-term technology planning; set broad strategic and policy directions; make major resource decisions with emphasis on adoption of new
technologies, including additions to the technology portfolio; emphasis on decisions requiring resources beyond those currently available.

Examples of activities: review and approve proposal to adopt Advancement System as a university system in the portfolio of supported products and dedicate necessary resources; adopt technology strategic plan; approve policies with broad impact on the university community, such as the Acceptable Use Policy.

Primary Members: Cabinet members and representatives of key university constituencies whose community of interest will be that of the university as an institution.

Level Two: Strategic Communities of Interest

Purpose: Set goals and provide leadership for defined areas of the technology portfolio; approve annual plans for portfolio components within area; propose additions to portfolio to support community of interest; emphasis on higher-level direction-setting within existing resources, although groups may develop proposals for additional resources for approval by level one.

Examples of activities: Set priorities for enhancement and support of specific assigned portfolio systems within existing resources, for example approving annual plan for enhancements to a particular system based on criteria related to available resources (e.g., requires greater than 20 days technical staff time and/or 20 days functional staff time).

Primary members: Senior managers of units served by the portfolio area, such as deans, assistant VPs, directors

Level Three: Operational Communities of Interest

Purpose: Determine operational support needs for defined areas of the technology portfolio; plan logistical approaches to system operational changes; emphasis on operational problem-solving and decisions within existing resources, to a pre-determined level of resource usage.

Examples of activities: Determine if or when a particular change should be applied to a specific assigned portfolio system within existing resources, for example planning a vendor upgrade to a particular system based on criteria related to available resources (e.g., requires less than 20 days technical staff time and/or 20 days functional staff time); schedule activities; make operational decisions related to internal/external mandates for system changes (e.g., changes to support new federal reporting requirements).

Primary members: Faculty, staff, and students identified as major system/service users, who rely on the system/service to do their jobs and who can assist in making effective decisions.
Implementation of a New IT Governance Structure

The first step in establishing a new IT governance structure at UNH is the creation of the Steering Committee for Information Technology (SCIT). Although this document provides the conceptual model for IT governance, the SCIT will make decisions regarding key components of the implementation process, such as approving the array of systems and services that fall within IT governance at UNH. Another important immediate role for the SCIT is providing institutional guidance for critical strategic technology decisions that must be undertaken even while the new governance system is being developed. Among these critical issues are the following:

1. The SCIT will serve as the steering committee for an already commissioned external review of telecom futures, including both technology options and alternative financial models.
2. The SCIT will adopt institutional policies in key areas, such as those identified in the Internal Audit consultative review.
3. The SCIT will evaluate proposals for implementing university-wide content management as a means to support collaboration and protect university assets. This project would also enable implementation of an e-portfolio.
4. The SCIT will advise UNH delegates to the USNH governance system on UNH priorities.
5. The SCIT will provide guidance to the first UNH Technology Master Planning process.
6. The SCIT will provide review of technology emergency preparedness initiatives prior to a more complete plan as part of the UNH Technology Master Plan.

Process for Developing a New IT Governance System:

1. President’s Cabinet endorsement of this proposal.
2. Appointment of Steering Committee for Information Technology (SCIT)
3. SCIT charge to CIO to work with TPPG and other existing IT governance groups to define UNH IT portfolio and to develop a proposal for specific level 2 and level 3 governance groups.
4. SCIT preliminary determination of IT areas to be included in the IT governance process.
5. SCIT approval of UNH IT portfolio and specific level 2 and level 3 governance groups. Included in this step will be SCIT confirmation of IT areas beyond CIS to be included in the IT governance process.
6. Form new governance groups, and dissolve any existing groups that are not carried into the new system.
7. Begin operation of new system.
Charter for the Steering Committee for Information Technology (SCIT)

The UNH Steering Committee for Information Technology (SCIT) is a standing advisory committee to the President of the University of New Hampshire. It sets overall university information technology goals and policies for UNH-specific resources. It also provides advice and guidance to the University of New Hampshire representatives engaged in University System of New Hampshire governance. SCIT is a planning and policy group: Ordinary maintenance of information technology and related equipment is the responsibility of Computing and Information Services or of the specific university office to which that responsibility is assigned.

SCIT will focus on issues with broad impact on the university community. It is charged with responsibility for establishing strategic goals and institutional policies in the following areas as they relate to UNH information technologies:

a. Security and identity management
b. Funding models, including resource planning
c. Disaster recovery planning
   1
d. University systems
   2
e. Strategic technology plans
   3
f. Establishing hardware and software standards
g. Training and professional development for faculty, staff, and students
   4

Generally, proposals for SCIT decisions will be submitted through operational and strategic governance committees established by the Chief Information Officer (CIO). Proposals which do not fit into an existing operational governance committee may be submitted directly to the CIO, who may assign the proposal to an existing committee, establish an ad hoc committee, or submit the request directly to SCIT. Proposals will usually require the endorsement either of an operational committee or of a dean and/or Vice President prior to SCIT review. Upon request, the CIO will assign staff to assist university departments and offices in developing proposals.

Committee Membership

- Vice President for Finance and Administration (Chair)
- Provost and Executive Vice President for Academic Affairs
- Vice President for Research and Public Service
- Vice President for Student and Academic Services
- Vice President for University Communications

Ex Officio Non-Voting

- Faculty Senate Representative
- Dean of University Library
Committing & Information Services  
University of New Hampshire  
Office of the Assistant VP & CIO

- Associate Director of EOS
- Dean’s Council Representative
- Student Senate Representative
- Chief Information Officer (coordinates staff work in preparing information for SCIT, including agenda development)
- Associate Vice President for Operations
- Assistant Vice President for Human Resources
- Assistant Vice President for Financial Planning and Budgeting
- Graduate Student Organization (GSO) representative

Committee Staff

- Director of Academic Technology
- Director of CIS Finance & Planning
- Director of Enterprise Computing Group
- Director of Telecommunication & Client Services
- Director of IT Project Management & Consulting Services
- Director of Information Technology Security
- Director of UNH Interoperability Lab (IOL)
- Associate Director of Research Computing
- Director of Information Technology & Distributed Education (ECE)
- IT Audit Specialist (USNH)

Generally, the committee will meet on a regular monthly schedule so as to accomplish its work in a timely, responsive manner. Written preparatory materials will be distributed one week in advance of meeting dates.

The Committee will submit an annual report to the President, no later than June 30th of each year.

1 SCIT’s role in Disaster Recovery Planning includes review and approval of plans for specific recovery of information technology systems and services. It also assures that IT DR planning is appropriately linked to broader University disaster and emergency planning. It does not, however, change the role of the University Emergency Group, which addresses the broader planning issues.

2 University systems (sometimes called enterprise systems) include those systems that meet a mission-critical university need. SCIT will charge the AVP/CIO to recommend a portfolio approach that identifies the university’s enterprise systems and establishes a baseline for SCIT’s work in this area. Additions, major modifications, or deletions from the enterprise systems portfolio will require SCIT review and approval. Examples of university enterprise systems likely to be in the portfolio are the MyUNH portal, the Banner Student Information System, the Blackboard Learning Management System, the e-mail system, the telephone system, the university network, the Banner Advancement System. Each system included in the portfolio will be assigned to an operational-level group established to deal with non-strategic issues and to propose enhancement and/or change related to the systems.

3 SCIT will charge the AVP/CIO to establish a comprehensive UNH IT strategic plan for its review and approval. The plan will link IT goals to the Academic Plan and may be considered a component of that plan. The IT strategic plan will be reviewed and updated on a periodic basis as determined by SCIT.
4 SCIT will assure that IT professional development and training is coordinated as a component of overall University professional development and training. It will also assure that professional development and training are available related to University systems in the IT portfolio. It will not address training specific to academic departments and programs, which will remain the responsibility of the academic units.

5 The designation of committee staff does not suggest a change in reporting relationships within the management structure of the University. It does indicate that the staff members listed will be available, as technology leaders within their respective areas, for consultative work with the SCIT as needed.
Appendix

How the 2005-2006 top ten Educause technology issues might be addressed in the new UNH IT governance system.

<table>
<thead>
<tr>
<th>Question 1: Need to Resolve for the Institution’s Strategic Success</th>
<th>Question 3: What IT Leaders Spend Most Time On</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Funding IT</td>
<td>1. Funding IT</td>
</tr>
<tr>
<td>2. Security and Identity Management</td>
<td>2. Strategic Planning</td>
</tr>
<tr>
<td>3. Administrative/ERP/Information Systems</td>
<td>3. Administrative/ERP/Information Systems</td>
</tr>
<tr>
<td>4. Strategic Planning</td>
<td>4. Infrastructure</td>
</tr>
<tr>
<td>5. Infrastructure</td>
<td>5. Governance, Organization, and Leadership</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 2: Potential to Become More Significant</th>
<th>Question 4: Expenditure of Most Human and/or Financial Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Funding IT</td>
<td>2. Infrastructure</td>
</tr>
<tr>
<td>5. Strategic Planning</td>
<td>5. Electronic Classrooms/Technology Buildings</td>
</tr>
<tr>
<td>6. Faculty Development, Support, and Training</td>
<td>6. Web Systems and Services</td>
</tr>
<tr>
<td>7. Infrastructure</td>
<td>7. Student Computing</td>
</tr>
<tr>
<td>8. Disaster Recovery/Business Continuity</td>
<td>8. Instructional/Course Management Systems</td>
</tr>
<tr>
<td>10. Web Systems and Services</td>
<td>10. Funding IT</td>
</tr>
</tbody>
</table>
Educause Top Ten Issues “Questions Needing Resolution to Ensure Institution’s Strategic Success”

1. Security and Identity Management

Many of these issues are being explored through the USNH Long Range Technology Plan. The UNH IT governance system will provide guidance to UNH’s participation in the USNH activities and address UNH-specific issues.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Make institutional policy decisions -Guide USNH reps</td>
<td>Perform analyses and recommend positions</td>
<td>-Assess realistic feasibility -Develop rules for implementation</td>
</tr>
</tbody>
</table>

2. Funding IT

IT funding for major systems and services at UNH comes in the form of general assessments and fees. UNH also participates in funding planned at USNH.

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Determine funding by approving proposals to add, enhance, or delete systems and services from the IT portfolio, especially those requiring new funding sources</td>
<td>-Determine use of current resources within area of interest by setting major goals -Make recommendations to the institutional level</td>
<td>-Determine use of current resources within area of interest and within prescribed boundaries -Develop cost estimates and make recommendations to the strategic level</td>
</tr>
</tbody>
</table>
3. Administrative/ERP/Information Systems

<table>
<thead>
<tr>
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<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Approve additions or major changes to the Information Systems portfolio (example, decision to fund advancement system as a university initiative)</td>
<td>- Recommend additions &amp; major changes in the information systems portfolio&lt;br&gt;- Set goals for systems within current resources</td>
<td>- Decide whether and how to implement modifications to systems within prescribed resource guidelines&lt;br&gt;- Resolve operational issues, such as scheduling module upgrades</td>
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<tr>
<td>- Approve deletion of systems in portfolio based on changed needs</td>
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</tbody>
</table>

4. Disaster Recovery/Business Continuity

Disaster recovery and business continuity planning (DRP/BCP) is taking place at both the USNH and UNH levels.

<table>
<thead>
<tr>
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<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Guide USNH reps&lt;br&gt;- Approve DRP/BCP recovery standards&lt;br&gt;- Approve resource commitments&lt;br&gt;- Mandate DRP/BCP commitments</td>
<td>- Recommend DRP/BCP recovery standards&lt;br&gt;- Analyze and recommend resource needs&lt;br&gt;- Approve DRP/BCP recovery protocols</td>
<td>- Implement recovery protocols&lt;br&gt;- Document DRP/BCP recovery protocols</td>
</tr>
</tbody>
</table>
5. Faculty Development, Support, and Training

Currently faculty development, support, and training is a combination of centralized (e.g., FITSI) and decentralized support. It may be that for purposes of this system, development, support, and training should be redefined in broad institutional terms to include faculty, staff, and students. IT development, support, and training would be coordinated with Human Resources and, for purposes of this document, include both general (e.g., ethical computing/AUP) and system-specific (e.g., how to use MS Exchange) items that relate to the IT Portfolio.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Approve resource allocations</td>
<td>Establish system-specific goals</td>
<td>- Design system-specific</td>
</tr>
<tr>
<td>- Establish institutional goals</td>
<td></td>
<td>development, support, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>training</td>
</tr>
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6. Infrastructure

UNH faces a number of important issues related to its IT infrastructure, such as upgrading its data network, determining level of wireless network coverage, supporting/not supporting a new generation of handheld devices, providing robust and pervasive classroom technology.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Determine priorities</td>
<td>- Envision infrastructure</td>
<td>- Determine logistical</td>
</tr>
<tr>
<td>- Determine financial commitments</td>
<td>needs for area of interest</td>
<td>implications of possible changes</td>
</tr>
<tr>
<td></td>
<td>- Propose enhancements and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>changes</td>
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</tbody>
</table>
7. Strategic Planning

Strategic IT planning engages the university community in envisioning a future environment in order to set directions for reaching that environment in an effective manner.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Assure strategic IT planning is based on institutional priorities consistent with the Academic Plan -Approve strategic IT plan(s) -Plan for resource needs</td>
<td>-Envision strategic opportunities for area of interest -Provide recommendations for strategic planning process</td>
<td>-Provide analysis as requested from strategic level</td>
</tr>
</tbody>
</table>

8. Governance, Organization, and Leadership

IT governance, organization, and leadership establish the importance of IT within the institutional culture. They also provide involvement and “ownership” that are necessary to effective IT systems and services delivery.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Demonstrate commitment to effective IT governance -Engage divisions of the university in IT planning and processes -Clearly communicate IT expectations and needs</td>
<td>-Demonstrate engagement in IT governance -Assure that needs of area of interest are effectively articulated</td>
<td>-Represent IT governance effectively to co-workers -Articulate needs effectively</td>
</tr>
</tbody>
</table>
9. E-Learning/Distributed Teaching and Learning

Currently E-Learning/Distributed Teaching and Learning involve a combination of centralized (e.g., Blackboard Learning Management System) and decentralized support and decision-making. The UNH IT Governance System should have no role in the curricular processes underlying E-Learning/Distributed Teaching and Learning. However, as with Blackboard, there may be areas in which some university-level planning will be beneficial.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
<th>Strategic Communities of Interest</th>
<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approve proposals for new university-wide e-learning systems</td>
<td>Consider impact of portfolio area on e-learning</td>
<td>Identify impact of specific system functions on e-learning</td>
</tr>
</tbody>
</table>

10. Web Systems and Services

The trend toward web-based systems and services will continue for the foreseeable future. UNH’s systems infrastructure is already heavily web-oriented. The MyUNH portal provides the unifying structure within which most web services reside. The UNH web site provides the outward-facing web environment.

<table>
<thead>
<tr>
<th>Institutional Community of Interest</th>
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<th>Operational Communities of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Establish institutional standards for web systems as needed (for example, one or many portals?) -Determine overall priority for moving services into the web environment</td>
<td>-Determine priority of moving services to web within area of interest -Determine structure of portal web services within area of interest</td>
<td>-Determine impact of web portal services options within area of interest -Plan implementations</td>
</tr>
</tbody>
</table>