



Statement of Direction: TOWARD A VALUE-ADDED COMPUTING MODEL FOR UNCG, 2013-2016

Preface

Planning for how a university should use information technology involves two different kinds of priority-setting. Those two kinds must be coordinated so as to produce a sustainable model – technologically and financially sustainable – that permits the university to meet its needs into the future. This “Value-Added Computing” document is intended to serve as a guide to how the second kind of priority-setting will occur at UNCG over the next three years.

The first kind of planning is priority-setting for the use of IT between and within the major areas of a university – instruction, research, administration, etc. In this first kind of planning, the priority-setting is fundamentally based on non-technology judgments and non-technology goals – that it’s important to use IT to enhance on-line instruction, for example, or use IT to reduce costs for administrative services. This kind of planning will be affected by UNCG’s next Strategic Plan and by other priority-setting described in “Setting Priorities for Campus-wide Information Technology at UNCG” at http://its.uncg.edu/About/UNCG_IT_Priority_Setting.pdf. This is the “why” of IT services.

The second kind of IT planning does involve technology judgments as to what technology approaches are sustainable. This kind of planning requires a detailed knowledge of the rapidly changing technology landscape – and a recognition that it’s likely to change even more rapidly in the next few years. This is the “how” of IT services.

Students, faculty, and staff have many technology wishes; the central reality of IT planning has always been that ITS cannot provide all of the IT services that our clients might want. Given this reality, and given the changing technology landscape, what changes are likely to occur in how campus-wide IT services will be provided at UNCG?

Information Technology Services, as UNCG’s central technology organization, will use this “Value-Added Computing” document to work with partners and clients across campus to determine how ITS can use scarce resources to add value for our students, faculty, and staff, in the most cost-effective way possible.

James Clotfelter, Vice Chancellor for Information Technology Services & Chief Information Officer

Context & Environment

- ITS currently provides excellent services, but trends in technology will make it increasingly difficult for central IT organizations to provide the range of services they have traditionally provided.
- Industry innovation will be pronounced, particularly in mobile platforms.
- The numbers of MacOS desktops and laptops as well as other devices at UNCG will continue to increase campus computing device diversity, and there will be more reliance overall on mobile devices and “BYOD” (bring your own device) computing.
- Security challenges will increase, worldwide.
- ITS will work to see that UNCG continues, in all external assessments, to be regarded as having good Information Systems general controls, and low IS risks.

- Despite budget cuts, UNCG will look to ITS & other units to provide more support for, among other things, instructional & research computing, on-line learning, & technology use by administrative units seeking increased efficiencies.
- Staffing in ITS is not likely to change significantly from ~140 (except where new responsibilities are assigned) and, usually, staff growth in one area must be balanced by reductions in another area.
- The University will remain under pressures to be efficient and effective, and thus senior management hopefully will be open to appropriate changes in services.

Deliverables

2013-16

1. Draft Statement of Direction
2. Review of #1 by Chancellor & Executive Staff
 - a. After review of statement of direction, discuss with campus
3. Usable ITS Service Catalog
4. 2013-16 ITS Project to work with campus to implement #2a
 - a. JC as client, AVCs as sponsors
5. UNCG LMS evaluation study (current Blackboard contract expires 6/16)
 - a. Report due 3/10/14
6. 2/1/14 new service suite/philosophy developed
 - a. Develop a framework for service delivery strategies, providing an outline of how ITS expects to deliver next generation services.
7. Review of #6 by Chancellor & Executive Staff
8. 12/1/15 Review of all existing ITS services for compatibility with #3a and University mission/priorities, leading to identification of opportunities for service changes

Ongoing

1. Clear agreements re: services to be provided by distributed units
2. Cost-effectiveness and performance measures for ITS services (also encouraged for services provided by distributed units).
3. Implementation of administrative build & other virtual desktop builds
4. Project prioritization process continues each year
5. Annual ITS training plans &, as appropriate, Career Development Plans for ITS staff

Assumptions

- ITS exists to provide or facilitate cost-effective technology services that permit UNCG to achieve its academic, administrative, & student service goals. Major changes in those services must be made with the knowledge & support of the Chancellor and University leadership. ITS is charged with providing technology leadership to show how technology can be used most effectively to address University goals.
- To best meet University goals, ITS decision-making must be informed by the University's strategic priorities, and the input of various committees, planning documents, and recommendations that support those goals. This is especially true with regard to instructional and research priorities. For details, see "Setting Priorities for Campus-wide Information Technology at UNCG" at http://its.uncg.edu/About/UNCG_IT_Priority_Setting.pdf.
- ITS & distributed units have to provide technology services that address the range of client needs from UNCG's diverse constituencies. Clarity must be achieved about what services should or will be provided by distributed units.

- Regardless of context, ITS will operate under constraints
 - Legal/regulatory compliance
 - State, UNC system, and University guidelines and mandates
 - Resource constraints, such as financial and personnel
- ITS should provide a service only where it adds capabilities or financial value to what individuals/departments can do for themselves, and where ITS has the resources and technical agility to keep pace with developments in the industry. If people are working around ITS services to adopt commodity offerings, ITS should reevaluate its service offerings.
- The analysis of services will use the Service Catalog as a foundation. As ITS develops the new model, ITS will define the circumstances under which specified services will be available (e.g., the kind of equipment a client purchases), & thus try to set client expectations. Also specified will be which groups will deliver the service.
- Robust testing, piloting and evaluation periods for new/substantially changed services will extend project timelines, but provide improved opportunities for “real-world” testing and adjustment prior to wider roll-outs. This approach will potentially save time and money overall and lead to better service results. ITS and clients will need to understand that some ideas/services tested will be deemed unsuitable to become production services.
- When looking at choice of buy v. build, default is buy unless a compelling business case can be made.
- When looking at choice of using a tool “out of the box” or customizing, default is to use “out of the box” unless a compelling business case can be made.
- Collaborative arrangements with other institutions will likely become increasingly important for UNCG both as a provider and a service recipient.
- When looking at choice of hosting locally or using a remotely hosted service, default is to use remote hosting unless University strategic and business needs are better met through local hosting. ITS will be open to hybrid solutions that combine locally and remotely sourced and managed options. This assumes the University and ITS develop the capability to deal effectively with more contracts and more contractors. Contract oversight costs must be built into cost-benefit analysis of alternatives.
- Cost-effectiveness & scale will continue to be important in determining what ITS provides.
 - When a new service is taken on, ITS must acknowledge the ongoing costs, including financial, human, and other resource utilization. Considerations include the impact on client time and resources, as well as the impact on ITS staff.
 - Services to other universities must meet the same standards.
 - All of the limitations & challenges facing ITS also face UNCG’s distributed IT units, & they lack ITS’ scale.
- ITS will move toward an eventual device-agnostic service access model for standard desktop services, where possible.
 - ITS expects to see vendors deliver more software products and services in a device-agnostic fashion.
 - The virtual desktop computing experience accessed from a physical device will be, for the foreseeable future, a Microsoft Windows environment that will require management and configuration.
 - Some opportunities for specialized software or hardware are not device/OS agnostic
 - ITS will not rule out support of software or hardware products with platform limitations where that software or hardware fits a critical need or strategic priority.

- Specialized opportunities for supported software or hardware should be reviewed through the existing project prioritization process, and with awareness of the University's strategic priorities.
- The changes described here will create opportunities for current ITS staff to develop their skills and take on work assignments that may be quite different from their current tasks. ITS recognizes the need to provide training and support to assist in this transition. The organizational alignment of ITS will evolve, as it adjusts to technological changes. ITS management will use opportunities presented by staff turnover to assess resource needs and fill positions with an eye to future needs.
- ITS will retain a set of core services, but it will be offering a streamlined set of high-quality services at the end of this process. In concert with industry trends, ITS will meet client business needs more through consultancy and system integration services than through custom development services.
- ITS will continue to provide high performance network services to the campus that will include special-purpose networks as needed, and will strive to make access to these services transparent to users.
- ITS will seek to increase campus network availability and performance to meet the growing demand of UNCG faculty, staff, and students for distance collaboration, distance education, and delivery of online content. ITS will need to offset higher networking costs by cost reductions in other service areas.
- Learning management (courseware) systems are critical to support both on campus and distance education. Learners have access to worldwide services, and UNCG should focus on what benefits learner access, as well as what benefits UNC/UNCG DL programs.
- Increasingly, it may be resource-effective to rent compute cycles as needed, rather than to buy and locally host compute cycles. (This is likely to be especially true for high performance compute resources.) Analysis will be necessary in every case, to ensure that the sourcing of cycles meets client/University needs and can be managed appropriately by ITS.
- All of the above assumptions depend on significant change in client expectations, & orderly transition. ITS must help our clients manage change.

Expectations

- Core services
 - ITS is likely to provide fewer services in the future, but be required to consult on more. The services provided should be richer and be competitive with non-UNCG alternatives.
 - When deciding whether to discontinue or substantially alter services, ITS will attempt to evaluate the impact on client time and resources. This evaluation will be done with sensitivity to the variation in technical skills and unit/dept technical resources that exist across campus.
 - Consulting and contract management will be provided across most areas, except for those left to distributed IT units. These services will be especially important in high-demand areas such as instructional & research computing, on-line learning, & technology use by administrative units seeking increased efficiencies.
 - Network services
 - Authenticated network access will still be needed for compliance (DMCA, etc.)
 - Some level of public wireless access will be continued.
 - GCN will remain as a privately addressed environment.
 - ISP network will remain as an offering for client-owned and administered workstations needing fully routable internet address.
 - Network services will be expanded to offer services designed for research and instructional use consistent with initiatives such as the "Science DMZ".

- ITS will continue to aggressively pursue emerging technologies, operational process improvements, and increased energy efficiencies that help reduce the footprint in the campus data centers and telecommunications facilities, as well as partnerships that enable ITS to significantly extend the useful life of campus data center facilities, within a context of increasing campus demand.
- Software as a Service (SaaS) offerings, such as iSpartan (Google Apps for Education), will likely grow in importance as collaborative offerings become richer, and web-based productivity tools become more full-featured.
- Virtual desktop services (virtual.uncg.edu) will be a key to success.
- Enterprise restricted data will be segregated into the data center, accessed by virtual desktop services. This will provide necessary encapsulation to facilitate physical/logical movement of ERP services, if the University decides at some point that is appropriate. ITS needs to make the perimeter to be defended as small as possible.
- Compromised workstation processes will be simplified by minimizing data leakage to workstations (with enterprise ERP restricted data contained in the data center and accessed via virtual.uncg.edu).
- There will continue to be compromises of all device operating systems and form factors, including mobile. ITS will seek to prevent restricted data from being loaded onto the device, thus facilitating a “lightweight” OS reload in the case of a compromise.
- Issues relating to potentially changed services
 - Analysis is underway to evaluate the roles of ITS shared file services and cloud alternatives.
 - Analysis is underway to evaluate the cost-effectiveness of printing alternatives such as ITS-managed print services and cloud alternatives.
 - Services that replicate industry offerings, such as LAMP stack application support, will be evaluated.
 - The approach to centrally managed software distribution must adequately balance staff resource requirements with potential campus-wide cost savings provided by volume purchases. Impact on client and ITS resources must be considered.
 - Software will be delivered via virtualized application streaming or hosting, where feasible.
 - Banner will remain UNCG’s ERP for the foreseeable future. Any ERP transition would require great sensitivity & close working relations with clients.
- Central & distributed IT services at UNCG
 - It will be essential for distributed IT support groups to understand the rationale and timeline for these changes. If distributed units feel they need to take on services that ITS no longer provides, overall University cost-effectiveness could suffer. A close partnership with distributed units is essential.