

**Information Technology Task Force  
Subcommittee on  
Administrative Efficiencies  
  
Final Recommendations**

**March 26, 2009**

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## Introduction

To: Ricky Revesz  
From: All Subcommittee members  
Re: **Subcommittee on Administrative Efficiencies Final Report**

As an advisory group to the ITTF, the Subcommittee on Administrative Efficiencies was charged with the following mission:

- A. To ensure ITS is as efficient as can be prudently achieved
- B. To promote coordination of our subcommittee with other University task forces
- C. To develop and promote recommendations on ways to:
  1. Achieve operating efficiencies
  2. Achieve efficiencies through the use and introduction of IT products and services
  3. To encourage effective acquisitions, use and operation of IT-related products and services through such measures as improving practices for allocating central IT costs to users

To assist us in our efficiency mission, the subcommittee developed operating guidelines to enable the systematic identification and evaluation of potential areas for efficiencies and savings. The guidelines established are as follows:

1. To perform a literature search on core IT functions and services to identify new opportunities and trends in the industry that could potentially yield operating efficiencies and savings
2. To meet with ITS' three Executive Directors and the School CIOs to discuss strengths, weaknesses, future directions, and potential efficiency opportunities
3. To identify redundancy and overlap areas where consolidation and/or unification may yield efficiencies
4. To compare NYU's common IT functions and activities to industry "best practices" and cost delivery rates
5. To identify and evaluate outsourcing opportunities where services are equal to or better than the NYU model and cost savings can be achieved
6. To identify opportunities where "master or licensing agreements" for software and consulting services could yield financial savings

By following the process outlined above, the subcommittee identified several areas where we believe savings can be achieved immediately or in the near future. Each of these areas was fully discussed, evaluated and reviewed by our subcommittee and have either unanimous or majority support. We are pleased to submit the following recommendations to the ITTF for review and evaluation.

## **Email**

### ***Current Environment***

New York University currently operates multiple electronic mail (email) systems across the campus. ITS runs and maintains the largest email system on campus at a cost of nearly \$1 million dollars per fiscal year. Each student, faculty member and administrator is provided with an account, accessible through the web via NYU home, with an initial allocation of 250 megabytes of online storage.

Two schools, Law and the Stern School of Business, operate independent email systems from ITS. Stern uses a “Zimbra” a product owned by Yahoo! and Law uses Exchange, a product from Microsoft.

In addition there are a number of smaller administrative units and departments that run their own systems. These systems include, among others, Lotus Domino mail and Eudora.

### ***Web Mail Technologies***

Web based email is a service that allows the end user to access their email directly through a web browser as opposed to an email client like Microsoft Outlook.

The primary advantage of web-based e-mail over application-based e-mail is that a user has the ability to access their inbox from any Internet-connected computer. However, the need for Internet access is also a drawback, in that one cannot access their old messages when they are not connected to the Internet.

In 1997, prior to its acquisition by Microsoft, Hotmail introduced its service, which became one of the first popular web-based e-mail offerings. Following Hotmail's initial success, Google's introduction in the web mail arena in 2004 sparked a period of rapid development due to their new features such as JavaScript menus, text-based ads, and bigger storage.

### **Google Apps for Education**

Google launched a series of tools for educational institutions (Google Apps for Education) in 2006. The ITTF subcommittee held a meeting with Google to better understand their product offering. At the meeting were representatives from the CIO council (composed of CIO's from each of the different schools at NYU), ITS and NYU central administration.

The applications included in the Google Apps for Education are:

- G-Mail web email system with 7.8 gigabytes of storage
- Shared calendaring system
- Instant Message/Video Chat
- Enhanced mailbox searching
- Collaboration tools
- Google docs

The system is an outsourcing solution made available for free to Universities.

Google provided a list of other Universities and institutions that have outsourced their email systems, a partial list follows:

- University of Arizona
- University of Southern California
- Notre Dame
- Northwestern University
- Louisiana State University
- University of Virginia
- George Washington
- University of Rochester
- Vanderbilt

The Google G-Mail system experienced two highly publicized global outages in the past two months. The first crash left users without the ability to access email for 2.5 hours, the second crash left a subset of European users without the ability to access email for 4 hours. Both problems were traced to router software issues.

Google maintains an online dashboard to report on the status of their applications (<http://www.google.com/appsstatus#>)

## **Reasons to Transition to an Outsourced Email Solution**

### **COST AND EFFICIENCY**

- Service is free.
  - Google provides email access and applications for the entire campus at no charge.
- Redeployment of money
  - IT staff and resources can be focused on education and academic priorities rather than email.
- Green Initiative
  - Outsourced email reduces energy costs / carbon imprint by reducing the number of servers the University needs.
- Costs are fixed based.

- No additional hardware is ever needed, since solution is completely outsourced. There is no need for capital expenditures on new or enhanced equipment.
- Scalable
  - Costs are the same if NYU adds 1 user or 1 Million users.
- Standardization
  - A more robust email system will allow NYU to standardize on a single platform and unify all of NYU on a comprehensive platform.
- Dedicated Email Experts
  - Outsourcing to an “email only” organization allows NYU to leverage their dedicated staff and vast knowledge base of materials.

## FUNCTIONALITY

- Shared calendaring system
  - This will save costs associated with licensing Meeting Maker.
- Instant Message/Video Chat
  - NYU does not have a video chat application.
- Enhanced mailbox searching
  - NYU email is not searchable.
- Collaboration tools
  - NYU does not make collaboration tools available to the user community.
- Google docs
  - Word processing, Spreadsheet Tool and Presentation program (similar to MS-Office)
- Large storage capabilities
  - 7.8 gigabytes vs. 250 megabytes (30x larger than NYU)
- Autosave Drafts
  - Automatically save working drafts
- Strong Integration with Blackberry and other handheld devices

## Reasons to Keep the Email System an Internal NYU Operation

While there is widespread support to transition to Google Apps for Education type of applications (see: Washington Square News Editorial Thursday, February 5, 2009) [http://www.nyunews.com/opinion/staff\\_editorials/get\\_on\\_the\\_gmail\\_bandwagon%2C\\_nyu-1.1355217](http://www.nyunews.com/opinion/staff_editorials/get_on_the_gmail_bandwagon%2C_nyu-1.1355217), there are also reasons to maintain a system in-house. These reasons include:

- FERPA
  - Potential FERPA compliance issues
- Confidentiality
  - Concerns exist that Google will search and store metadata about emails, although contractually prohibited.
- Loss of Control
  - A third party would be in control of managing the university’s email system.
- Future Costs

- It is unknown if service will continue to be free after the initial contract term expires.

## ***Recommendations for Email Efficiency***

The ITTF subcommittee on Administrative Efficiency recommends that NYU pursue a policy of outsourcing the NYU email system to a third party vendor. The committee does not endorse a specific vendor. There are other vendors in the market offering these services beyond Google, such as Microsoft. The committee met with Google only in the capacity of fact finding and education.

We believe that tremendous savings can be realized by transitioning to an outsourced web mail platform. Functionally, the systems offered on the market are a marked improvement over the current platform maintained by NYU. From a cost analysis, NYU's ITS organization would be relieved of its yearly financial obligation to maintain a University wide system. The money saved could be redeployed into other internal IT initiatives.

A universal web mail system that meets or exceeds the requirements of all the different email user groups on campus would allow NYU to standardize and unify the campus on a single email platform. NYU Stern is already in preliminary discussions with Google to switch from their current Zimbra Platform to the Google Apps for Education. These schools and various departments would directly realize savings in licensing fees, hardware maintenance and personnel by having the burden of maintaining a separate system removed.

The estimated annual recurring savings for outsourcing the NYU email solution range from \$750,000 to \$1.5 Million.

## **Computer Labs**

### ***Current Environment***

NYU's ITS organization maintains 4 general computer labs totaling 14,306 square feet, and they contain both PCs and printers. The budget resource allocation to ITS Computer labs/Classroom for fiscal 2007 was \$1.825 M. In addition to the 4 computer labs maintained by ITS, the Schools maintain their own network of proprietary computer labs. There are 38 School proprietary labs with a total of 1,043 PCs. In addition to the computer labs maintained by the Schools' IT departments, many academic departments also provide and maintain their own proprietary computer labs, which are not represented in the above totals.

## ***Changes in Student Computing***

Over the past few years the role of the general purpose computing lab has changed significantly. Students today are well outfitted with computers as the cost to own a machine with the latest technology has declined radically.

A University of Virginia report, to be cited later in this document, showed that of 3,000 entering freshmen who brought a computer to campus, only 3% brought a desktop computer. Entering students are well equipped with laptops.

The current computer labs are outfitted with rows of desktop and/or laptop computers in a cubicle type arrangement.

The committee believes that these labs operate on an old and outdated model that is no longer relevant to how students want to work and study. These labs function as little more than printing and email stations for the majority of the student population.

While the traditional computer lab of cubicles and PC's may no longer be relevant, a gathering place for students to work together on projects is still critical to the academic mission of NYU. We believe that by transforming existing computer labs into collaborative work rooms with improved wireless capabilities, students will be better served while at the same time lowering administrative operating expenditures.

There is an important distinction between general purpose labs and specialty labs. The general purpose labs are administered by ITS and the specialty labs are funded and operated by their respective schools.

These specialty labs should remain intact as they serve a specific academic purpose.

## **Collaboration Software**

Universities and private organizations are extracting significant value and savings from the deployment of collaboration type applications. These tool sets allows users to work apart from each other but yet interact in a manner only possible before in a face to face environment.

MIT and the University of Virginia (UVA system is modeled on North Carolina State Univ.) are two institutions who have deployed on a large scale student collaboration software systems. These systems have allowed students to work together without the need for the older style computer lab.

The deployment of these tools plus a retooling of existing computer lab space, have allowed these schools to not only stop construction of new computer labs, but reduce the overall foot print that computer labs occupy.

## ***Recommendations for the Future of Computer Lab Space***

The committee recommends that the University halt all plans and any pending construction for new “traditional” computer lab facilities. ITS should investigate and plan to transform existing computer labs into collaborative work rooms with improved wireless capabilities. While the traditional computer lab of cubicles and PCs may no longer be relevant, a gathering place for students to work together on projects is still critical to the academic mission of NYU.

The money saved from no longer needing to maintain PCs and computer lab staff can be initially redeployed to support the modern vision of a collaborative computer workspace. After the capital conversion of this space and the upgrade of wireless internet capabilities, substantial savings should be realized on an ongoing basis. To assist students who do not own or can't afford a laptop, the committee recommends the establishment of a student laptop loaner program.

The committee recommends that ITS make available to the student population a collaborative software application to encourage students to work together on their PCs and Laptops.

As many students use the NYU computer labs as places to print documents, it would be a more efficient use of space to assign dedicated printing areas that take up less space. The committee recommends that ITS explore adding print kiosks or print stations around the campus that will operate with the NYU One Card system. We believe that by making printing more accessible around campus, we will reduce the demand and need for computer labs on campus.

The renovation work needed to convert the existing computer labs could be completed over a summer. We do not believe the costs would exceed the current operating budget of 1.8M with recurring savings estimated at \$1.3 to \$1.5 annually.

## **Wireless**

### ***Current Environment***

NYU currently maintains a wireless campus infrastructure (“NYURoam”) providing internet service at approximately 100 locations. These locations are listed in Appendix A.

While providing wireless access to a large number of locations, there are very few completely “lit” buildings on campus. Most buildings have certain floors with wireless access while others have partial floors. A NETid and password are required to access the wireless system.

### **STERN**

The Stern School of Business maintains an additional campus wireless network for its buildings, TISCH, KMC and Shimkin. Both are equipped with two wireless networks, SternOnTheMove and SternOnTheMoveSecure. Tisch is currently only equipped with SternOnTheMove. Both require web authentication though SternOnTheMoveSecure allows users to download a small client to manage their identities.

### ***Changes in Wireless Computing***

#### **Death of the Desktop**

The desktop computer, the standard for all computing platforms over the last 10 years, has been replaced by the laptop as the choice for incoming students. A recent University of Virginia study of 3000 entering freshmen who brought computers to campus found that only 90 brought desktops.

The transition to a portable computing platform also requires a portable wireless network. The expectations of new students entering colleges and universities are that they will be able to connect wirelessly to the internet and campus network with the laptops no matter where they are on campus.

#### **New-Student Expectations**

As new students enter NYU each year, their technological expectations are becoming more sophisticated. These students, growing up in a wireless world, expect to be able to work and study when they want and where they want. Their entire ensemble of computing systems are geared to interact in a wireless environment, from 802.11x compliant laptops to Bluetooth enabled periphery devices.

## **New Wireless Standards**

As wireless computing becomes more ubiquitous, personal computers and laptops are now designed with 802.11x compliant cards as standard equipment.

IEEE 802.11x, the international standards that define the specifics for wireless computing, changes on a frequent basis. Current standards being finalized (estimate for December 2009) include 802.11n with a bit rate of 600Mbps/sec and range of 300 meters.

Future standards include 802.11ab with a 60ghz transmission frequency will be completed by 2012.

All indicators point to wireless technology expanding radically in the next few years with greater emphasis on improved bandwidth and multi-signal processing

## **Wireless Connectivity in Student Housing**

As wireless technology expands and off the shelf computers have wireless technology as standard equipment, a number of Universities have taken steps to create all wireless environments in their campus housing.

In late 2006, Princeton University embarked on a program to install wireless technology in their entire student housing. Harvard University embarked on a similar initiative a year earlier. While both Universities encountered difficulties creating the wireless system with problems ranging from furniture placement and wall thickness, the overall reaction has been positive. Their success has been duplicated at other schools including University of Virginia and MIT.

More recently the University of Indiana, as part of their \$270 Million dormitory renovation project, installed wireless technology as a way of recruiting and retaining students in campus housing.

The estimated cost to purchase the required electronics and install a wireless access point in a dormitory hallway is \$500, with several access points needed per dormitory floor. Compared against the \$450 to install Ethernet connections (the current charge by NYU Telecom to install 1 jack) makes the transition to wireless computing an economically efficient choice.

## **Wireless Connectivity in Administrative and Business Offices**

Along with national initiatives to make student dormitories wireless, a number of private businesses are flirting with wireless networks as well. While wireless networks are currently the domain of smaller businesses, the wireless network is clearly making inroads in an area dominated by traditional Ethernet connectivity.

Although there are many concerns regarding wireless' ability to protect data integrity and certain software application's sensitivity to data interruption so normally associated with wireless networks, it is worth noting the potential cost saving that can be derived from such a transition.

As business laptop sales close the gap on traditional PC's and the introduction of ultra portable net books, the work place is rapidly transforming into a portable environment demanding widespread wireless access.

A wireless business office encourages lower costs by removing Ethernet installation in renovations and new construction and providing employees with a more flexible and collaborative working environment.

### ***Recommendations***

The committee recommends that NYU ITS create and adopt a wireless strategic plan to accommodate the expectations of new student users and the administrative hardware/software applications being designed today to take advantage of a wireless environment.

The committee also recommends that NYU ITS examine the issue of wireless computing in student dormitories. As the technology for wireless continues expand, questions regarding the need to create hardwire connections in each room are raised. The committee recommends that ITS design and adopt a set of forward looking standards to address the future of internet connectivity within the student dormitories. These recommendations must set appropriate and realistic benchmarks for speed and network up-time, security/data integrity, and cost to deploy.

The cost savings that will be derived from transitioning to more wireless systems on campus versus hardwired Ethernet jacks is an ever shifting equation. The cost to deploy wireless technology has shrunk significantly in the last 3 years. Estimates place these costs to shrink further in the near future. However, it is well understood that a wireless solution will derive both operating and capital savings versus the installation and maintenance of Ethernet connections.

## **Software Licensing and IT Consultants**

### ***Current Environment***

NYU currently spends over \$15 million on software each fiscal year and over \$5 million on IT consultants.

In Fiscal 2008 there were 65 IT consulting contracts awarded to 41 unique vendors. During the same time period, 605 PO's were issued for software licenses to 300 unique vendors.

The purchase of software licenses is done through NYU Purchasing Services, the NYU bookstore and/or direct payments by departments. IT consultants are retained through purchasing services issuing a PO.

An initial analysis of purchasing trends indicates that NYU rarely uses its large size to secure lower rates. The economy of scale that NYU has across departments needing the same software or IT service is a powerful tool that must be leveraged.

As an example of the dramatic cost savings that can be achieved by leveraging the large buying power of NYU with software licenses, ITS cites its success with Meeting Maker. Before ITS negotiated a global license, there were approximately 1,100 instances of meeting maker at a cost of \$41/seat. After a license for the entire campus was negotiated, ITS secured 5,000 licenses at a cost of \$7/seat.

### ***Recommendations***

#### **Software Licenses**

The committee recommends that ITS and Purchasing Services perform an in-depth analysis on software licenses purchased through the Campus Bookstore and NYU Purchasing Services.

A team from ITS and Purchasing should be formed and empowered to proactively examine purchasing trends to determine if similar applications are being bought around the school and then attempt to negotiate more favorable rates with the vendor.

#### **IT Consultants**

The committee recommends that ITS and Purchasing Services review the contracts for IT consultants and determine if NYU can award a large consulting contract to one or two firms in exchange for reduced costs.















