

**Kingsborough Community College**  
**Student Technology Fee**  
**2014-2015**

As Kingsborough Community College celebrates its 50<sup>th</sup> anniversary, it faces a series of changes and challenges. New leadership at the Chancellors office is coupled with new leadership in the President's Office. Increased demands for accountability at the State and local level are accentuated by the higher standards set by the Middle States Commission. Enrollment trends continue to suggest contraction and, for community colleges, the concomitant impact on budgets give leaders reason for concern.

Committed to the proposition, however, that uncertainty is no excuse for indecisiveness, the College's Technology Fee Committee remains determined to ensure that Kingsborough continues to use the resources available as effectively as possible. Central to this commitment are a number of fundamental assumptions. First, the College cannot rely on increases in enrollment to provide revenue at the levels experienced in the past. Indeed, current data confirm what was observed in previous reports that enrollments have clearly crested. Since we can expect some rollback in the total enrollment, we must plan for a reduction in the fees collected.

Second, demand for technology will continue to increase along with the attendant costs. This will include both conventional workstations and mobile devices. Further, the support needs for a growing and more diverse installation base will tax existing staff and require that the priorities clearly align with institutional objectives, the strategic plan and stated educational outcomes. Finally, now more than ever plans must be congruent with available resources.

The Committee takes comfort in the knowledge that recent trends suggest that the strategy employed in the past was appropriate, that is, the College must:

- Look first to maintain the integrity of its current installation base by systematically upgrading workstations, software and instructional support
- Invest strategically in emerging technology
- Migrate purposefully to new platforms and/or technologies based on institutional need not technological fads

In order to achieve these objectives, the Tech Fee Committee continues to align its activities with those of the established planning groups within the institution and across the University. This includes the objectives in the Performance Management Plan (PMP), the goals articulated by the College's Strategic Plan, and the instructional needs articulated by student leadership and departmental representatives. In addition, the institution is undertaking a formal assessment of its IT operation. This assessment will also inform the activities of the Tech Fee Committee.

As has been the custom of the KCC Tech Fee Committee, it is necessary to first review the accomplishments in the 2013-14 academic year. We are pleased to report that the College has met or exceeded the goals set for the current year. These are briefly summarized below.

## **Accomplishments: 2013-2014**

### **Accessibility**

Zoom text software has been added to all the accessibility stations in the labs. In addition, two stations have been designated as ADA compliant stations in terms of space and furniture in each of the upgraded facilities (M-110, M-111, M-114, M-118, M-125, M-159 and M-322). The Accessibility Lab M-126 has been upgraded and all software brought up to latest version. In addition, a book scanner has been added to provide additional relief to students.

### **Augmentation of Workstation Imaging**

Academic computers now have a unified image based on the same core operating system. Labs can be customized based on their use. This approach has eliminated hardware based computer images and moved to software based images. An entire room can be configured easily and quickly with very little involvement from the technician. All required information is downloaded from the active directory. In addition to the benefits of uniformity for students and faculty, it has helped in scheduling of labs.

### **Automated software and security updates –**

With the introduction of Windows 7 we are able to better leverage Active Directory to improve the deployment of software updates and security updates. All computers in the academic areas have Microsoft Forefront Endpoint Protection (anti-Virus), Faronics Deep-Freeze (prevents changes to operating system) and automatic software updates enabled. The implementation of this technology will, we hope, minimize the threat of viruses and worms on the Academic network.

### **Augmentation /Maintenance of Networking Infrastructure Project**

The new switches have the ability to connect at 10 GB speeds to the core switch and are capable of being multi homed with dual power for business continuity and 24/7 operations. The Summit X460 model switches with power redundancy and configured secondary fiber optic connection include the following locations:

- **M114, M118, V220, V202, V201**
- **Extreme switch firmware maintenance/upgrade project** – Upgraded network switches to latest release for improved performance, support and use of new features.
- **Epicenter/Ridgeline project**- upgraded Extreme networks management software for better alert, visibility and improved administration of network switches.

### **Blackboard Mobile Project**

Blackboard Mobile Central is a comprehensive suite of campus services targeting students, faculty, administrators, alumni and our broader community on both native and mobile web platforms. It was architected with scalability in mind. Because it is impossible to truly plan for the vast array of devices to come in the future, we will be building a Central Service to house data in such a way that can be repurposed across all platforms/devices. In this way iPhone®, BlackBerry®, Android® and forthcoming

mobile operating systems will access the Blackboard Mobile Central application through the same Central Service on the backend. Kingsborough Mobile App was released for Android and iOS devices in Feb 2013. To date, more than 3,000 plus downloads of the App have been made by students, faculty and staff. Additional APPS include KBAM for student account management and access to KBCC radio station.

### **Business Continuity Project**

In order to support 24/7 operations and to reduce downtime, we have embarked on a project to augment the infrastructure and provide redundancy and fault tolerance where possible. We have added UPS in the data closets to help sustain network operations during short power outages. Deployment of a Redundant Core Network Switch will connect all the labs to a switch located at an alternate location to provide connectivity to network resources in case the current Core Network Switch fails.

UPS installed and configured in Academic side network closet. UPS added in the following rooms L218, M126, V201, V202, AS119, AS319, AS347, L304, L118, L200, F206, L705, T2-236, T4-263, T7-212A,

### **Class Capture System**

Tegrity is the class capture system currently used by our faculty. We are working to integrate it with Blackboard Learning Management system like other campuses.

### **Computerization of Classrooms Project**

In order to meet the growing need for computers for instructional purposes, we have embarked on a project to deploy thin client computers with Wireless connectivity in classrooms. These devices will use Citrix for application access. The project also requires that we change the furniture in the class rooms so the space can be used both as a lab and standard instructional space. We are in the process of adding over 230 wireless thin clients, approximately 16% of our current installed base in labs.

- T-4103-62 Wireless thin clients.
- T-7221-49 Wireless thin clients.
- T-7222-41 Wireless thin clients.
- T-7117-38 Wireless thin clients.
- T-7119-43 Wireless thin clients.

### **Digitization of Licensed Media Project**

This project will allow Digitization of Media in Media Center and will facilitate in-class instruction by serving multiple users, classrooms, and lecture halls with on-demand recordings and live streaming over the school's LAN. This eliminates the need for cable drops and DVRs in every classroom. By mirroring the familiar interface of a home DVR, users can schedule, search, and clip recordings using our client software with little or no training.

## **Deployment of Pharos Sign-up workstation reservation system**

Computers in the open labs: L100 A, B, and C section along with other open labs in near future; will be for the exclusive and fair use of Kingsborough students only. The introduction of Signup by Pharos leverages our continued investment in Active Directory. Students will be able to reserve a computer for 90 minutes in the open lab. Another feature of the Signup system is a display that shows a student's place in line. Two large screens have been installed in the L100 area so students can see their place in line and their estimated wait time. This will go a long way to improve customer service and reduce the stress on IT staff and students.

## **Deployed Self-Service Account management system**

With the deployment of the new student email system, Pharos Uniprint and Signup, a simple self-service method was needed for student to look up their information. KBAM (Kingsborough Account Management) was created in house to solve this problem. Students are able to look up their email address, reset their password, access their old email (if they were a student prior to fall 2011) and access their new email. This is also a system that will go a long way to improve customer service and reduce the stress of IT staff and students.

## **EPortfolio (Digication) Project**

EPortfolio are platforms for students, teachers, alumni, and professionals to showcase their work and ideas. They are archives of learning, discovery, progress, achievement and reflection. A few uses of ePortfolios include assessment, admissions, interactive resumes, student galleries, teacher resource sites, collaborative project portfolios, and research presentations. KCC plans on using Digication for 800 students and faculty.

## **Instructional Software Upgrade Project**

- Upgraded Adobe CS from Version 6 in the Mac lab in T5.
- Upgraded Toonboon software in the Mac lab in T5.
- Upgraded Storyboard software in the Mac lab in T5.
- Upgrade Quick books and Peach Tree software.
- Upgraded Cinema 3D R14 software in the Mac lab in T5.
- Upgrade Animate software in Mac Lab in T5.
- Upgrade Adobe Software to the latest version in all Labs.
- Upgrade of Adobe in S-225, S-214, M-220, M-214 and M-223.
- Deployed Office 2013 in all labs. Software purchased through ETI.

## **Library Databases and eBooks**

Working with the College's chief librarian, staff in both the Office of the Provost and the College's CIO will work to leverage both the resources of the operating budget and the Tech Fee Budget to ensure that the library secures the resources needed to support the instructional program.

## **Print Management**

Expanded Pharos Uniprint - Pharos Uniprint (pay-for-print) has been deployed to all the open lab areas. The introduction of this system has made a huge impact on the reducing the waste and abuse of the printers in the open labs.

## **Replacement of Computers and Printers in Labs**

Labs have been image converted to Windows 7 including those in: the COPE office; the Testing Labs of T6; L-705; M302 and a new image was created for Tri-Boot. New PC's have been deployed to facilitate the upgrade to Windows 7 without sacrificing speed and usability of the systems. The 597 new systems (which included 6 podium computers) were deployed in:

- F206, M109, M110, M111, M118, M125, M220A, M214, M223, M322, S214, S225, M200, S314, S335, S346, V223, V225, V201, L705, M114, M159.

New Printers were deployed in many labs to increase the uniformity of the labs and/or replace smaller printers with heavy-duty printers where needed as detailed below:

### **Replaced 4 network printers in Labs**

- Four HP 600 series printers have been deployed, in M159, M125, M-220A and M-108

### **Laptops in Labs**

- Five out of warranty laptops connected to wall displays in Nursing Department were replaced with HP Thin clients with external DVD players

### **Smart Class Room Project/New installs and Replacement**

- 3M Projection systems, Smart white boards and podiums with computers have been deployed in 3 additional class rooms. Replacement of 16 out of warranty projection systems, has been undertaken in the following rooms:
  - C-319, E-216, L-139, L-141, E-112, E-114, F-319, M-366, M-154, T-7221, D-216, D-321, M-119, M-395, M-396, M-397, M-126

### **Smart Labs Project**

- Additional ceiling mounted projection systems were installed in 2 science labs. The project in some labs included the installation of LCD screens to replace TV monitors, Pixie controls and speakers. Old out of warranty projectors were replaced in the following 28 labs:
  - M-114, M-118, M-220A, M-223, M-125, M-152, M-130C, M-220A, M-223, S-101, S-103, S-125, U-118 (Kitchen), M-109, M-110, M-111, M-214, M-322, S-124, S-135, S-136 (Art Classroom), S-201, S-203, S-214, S-225, S-226, S-237, S-238 (Art Classroom)

### **Remote and Wireless Print Management Solution (Pharos) Project**

- Expansion of deployed pay-for-print with support for wireless printing.
- Expansion of remote printing from home and wireless stations.

### **Uplift-Expansion and Enhancement of Labs**

In last fiscal year a project was initiated to uplift the labs by replacing the existing make shift desks with industry-standard furniture that provide better learning environment and allows for versatile use of this space. In addition to replacing the furniture the project in collaboration with facilities is embarking on sprucing up the labs by repainting, fixing ceiling tiles and floors. The project includes adding capacity where possible by reconfiguration of the rooms and adding access cards systems to allow faculty to open the doors based on the schedule of the room rather than waiting for the ITS department. Following labs have been done so far: M-114, M-118, M-111 and M-322.

### **Video Conferencing- Expansion of Capacity**

- Video conferencing solution using Radvision (Avaya) platform was implemented, this solution will allow faculty and students to interact via video conferencing for both online and hybrid courses. The current solution allows for 20 simultaneous conferences and 600 users. The solutions work on all mobile platforms namely Android and iOS.

### **Video in Class Rooms and Labs**

- In order to meet the instructional need for video collaboration six labs will have HD cameras installed to work with Blackboard Collaborate, Skype, Radvision or any other video conferencing system. Labs to be added this fiscal year would be M-109, M-110, M-111, M114 and M-118.

### **Virtual Desktop Initiative**

- A pilot project was initiated using VMware Horizon product to provide 30 students concurrent access to fashion design software via tablets, laptop and handhelds. The Virtual Lab would increase students' ability to practice and to use this software outside the physical lab that has the fashion design software installed. It also diminishes the need for additional software licenses in open labs and allows students to do homework assignments in a timelier manner.

### **Wireless Carts for Classrooms Project-Additional Capacity**

- The addition of 2 laptop carts with 20 HP Notebooks each will allow us to provide carts in 8 rooms simultaneously and decrease class traffic to already overtaxed labs. We also have a compliment of Mac computers with dual-boot capability to use both Mac and Windows OS.

### **Wireless Expansion and Upgrade Project**

- The process of upgrading to the newer faster N standard and addition of dedicated access points in class rooms to accommodate wireless access for thin clients has continued and progressed. An additional 50 access points to expand coverage, blind spots increased load. Also, 10 additional access points were added for the classroom computerization project.
- Wireless access has been expanded to all mobile devices including iOS, Android and Windows based devices.
- Printing from wireless laptops is being implemented on pay as you print basis.

### **Windows 7 rollout**

- Windows 7 has been successfully deployed to all the labs.

## **Addition Projects and Enhancements**

- Upgrade Pharos to 8.3 which will enable printing from anywhere and from any compatible device.
- Completed decommissioning of IC domain and unified all labs (labs.stud.kbcc.cuny.edu) and servers (serve.stud.kbcc.cuny.edu) under one parent domain stud.kbcc.cuny.edu. This improves management and integration with KB domain.
- Deployed new version of KBAM web self-service application. New version enabled users to look up printing account balance and reserve a PC in L100 area. Upgraded KBAM Helpdesk application for helpdesk staff to create, update and add email accounts.
- Continued server consolidation from physical to virtual. Reduced physical server count from 10 to 5.
- Tested Disaster playbook manual and automated process to ensure adequate access in case of failure.
- Upgraded self-hosted video service to migrate from hosted video service.
- Improved Sabre usability and support for Travel and Tourism
  
- Who's Next application for Financial Aid to manage the queue and provide better services to the students
  
- Who's Next for One Stop to manage the queue and provide better services to the students
  
- Group Email distribution for all courses and students
- All the computers in the testing labs were upgraded to the online version of ACT Compass and SKAT Connect.

## **TECHNOLOGY FEE Projects 2014-2015**

### **Augmentation /Maintenance of Networking Infrastructure Project**

The number of devices (whether BYOD or from installation base) is increasing at the rate of 25% per year; the infrastructure setup six years ago, though still reliable, is showing signs of strain. We plan for the coming years and increasing our install base by another 15 percent just in thin clients in class rooms we need to upgrade our network core switching to 40 GB from 10 GB. The budget allocation for this project is \$160,000.

### **Application Streaming Project**

Initiation of a rapid software deployment system resolved the issue of limited access to computer labs which has made traditional installation nearly impossible. This has taken care of faculty and students wanting applications on their own PCs, while managing software licensing costs. These applications are uninstalled based on time tokens. The total budget allocation is \$7,000.

### **Blackboard Mobile Project**

Blackboard Mobile Central is a comprehensive suite of campus services targeting students, faculty, administrators, alumni and our broader community on both native and mobile web platforms. It was

architected with scalability in mind. Considering that it is impossible to truly plan for the vast array of devices to come in the future, we have built a central service to house data in a way that can be repurposed across all platforms/devices. In this way iPhone®, BlackBerry®, Android® and forthcoming mobile operating systems will access the Blackboard Mobile Central application through the same central service on the backend. The first set of apps was released in January 2013, we will be adding additional apps and continue to maintain current apps. Total annual cost is \$29,000.

**Business Continuity Project**

In order to support 24/7 operations and to reduce downtime we have embarked on a project to augment the infrastructure and provide redundancy and increase fault tolerances where possible. We are adding UPS to support the network switches in labs. The cost includes equipment and redundant fiber connectivity to IDF closets. Total Budget allocation is \$12,000.

**Class Capture System**

A proof of concept was launched in last fiscal year to select a class capture system, and after looking at various systems Tegrity was selected as the system of choice for class capture, currently various faculty members are using this system. We would like to extend this offering to more faculty and use it as a DR solution so that in case of emergency recorded classes can be published for student use. Total Budget Allocation is \$10,000.

**Computerization of Classrooms Project**

In order to meet the growing need for computers labs and using computers for instructional purposes, we have embarked on a project to deploy computers in classrooms. We are planning on adding over 400 wireless thin clients and tablets. Total budget allocation for this project including hardware, electrical work, deployment of furniture and construction needed to convert the current lecture style classrooms to dual-purpose rooms and installation is \$ 425,000. Following rooms are to be part of this project.

<u>Room</u>	<u>Existing Seats*</u>
M349	50
S245	38
S246	43
T4230	62
T4232	108
T7105	41
T7208	35
V205	41

418

\*Seat count may change with modifications

**Digitization of Licensed Media Project**

- This project facilitates the digitization of media in Media Center and will support in-class instruction by serving multiple users, classrooms, and lecture halls with on-demand recordings and live streaming over the school's LAN. This eliminates the need for cable drops and DVRs in every classroom. By simulating the familiar interface of a home DVR,



users can schedule, search, and clip recordings using our client software with little or no training. Total cost \$7,000.

### **E-Portfolio (Digication) Project**

- E-Portfolios are platforms for students, teachers, alumni, and professionals to showcase their work and ideas. They are archives of learning, discovery, progress, achievement and reflection. A few uses of E-Portfolios include assessment, admissions, interactive resumes, student galleries, teacher resource sites, collaborative project portfolios, and research presentations. KCC plans on using Digitation for 1,100 students and faculty. Total Budget allocation is \$6,000.

### **Instructional Software Upgrade Project**

- Upgrade Adobe software to the latest version in all labs.
- Upgrade Animate software to the latest version in MAC graphic labs.
- Upgrade AutoCAD software to the latest version in all Labs.
- Upgrade Tandberg software in Language Lab L-102G.
- Upgrade Virtualization software for academic servers.
- Upgrade Culinary Science Software in U-118 and M-246 labs.
- Upgrade NetOp Software in all labs.
- Upgrade Deepfreeze software in all labs.

Total budget allocation is \$75,000.

### **Library Databases and eBooks**

- Procuring various titles for library databases. Total budget allocation \$ 30,000.

### **Print Management Solution (Pharos) Project**

- Support for recently deployed pay-for-print system with support for workstation reservations to additional open labs. Expansion of remote printing from home and wireless stations. Total budget allocation \$11,000.

### **Replacement of Computers in Labs**

- Replace 247 computers in the following labs based on 4-year refresh cycle.
- Replacement of 15 existing podium computers.

<b>LAB</b>	<b># of Computers</b>
<b>M-119</b>	30
<b>M-302</b>	9
<b>L-300</b>	12
<b>L-102G</b>	40
<b>T6</b>	156
<b>Total</b>	247

Total Budget allocation for this Project based on current pricing is \$262,000.

### **Replacement of Printers Project**

- Replace 7 network printers in labs. Total budget allocation \$12,000.

### **Smart Class Room Project**

- The Smart classroom project would be implemented in 5 additional class rooms. Approximately 12 out of warranty projection systems will be replaced. Total budget allocation including installation will cost \$100,000. Following rooms are candidates for upgrade:
  - C-321 ,C-322, M-128, M-129, M-153, M-305, M-313, M-338, M-367, M-208, M-209, M-210

### **Smart Labs Project**

- Additional ceiling mounted projection systems will be installed in two Physical Science labs. The replacement of six old out of warranty projectors will also take place. Total budget allocation \$20,000 including installation and Pixie controls, speakers.

### **Uplift-Expansion and Enhancement of Labs**

- In last fiscal year a project was started to uplift the labs by replacing the existing makeshift desks with industry-standard furniture that provides a better learning environment and allows for versatile use of this space. In addition to replacing the furniture the project, in collaboration with Facilities is embarking on sprucing up the labs with new paints jobs and the repair of ceiling tiles and flooring. The project includes adding capacity where possible by reconfiguring the rooms and adding an access card system to allow faculty to open the doors based on scheduled room usage rather than waiting for the ITS department. Following labs have been earmarked for next fiscal year: M-119, M-125, M-159, and M-220A.

### **Wireless Carts for Classrooms Project**

- Replacement of 48 out of warranty wireless laptops based on a four-year refresh cycle.
- Expansion of wireless cart capacity by the addition of two laptop carts with 20 HP Notebooks, this will allow us to provide carts in 10 rooms simultaneously to reduce the need for moving students to rarely available free labs.  
Total Budget allocation \$90,000.

### **Video in Class Rooms and Labs**

- In order to meet need for video collaboration in instruction six labs will have HD camera installation to work with Blackboard Collaborate, Skype, Radisson or any other video conferencing system. Labs to be added this fiscal year would be M-125, M-126, M-159, M-322, S-214 and S-225.

### **Virtual Desktop Initiative**

- A pilot project was initiated using VMware Horizon product to provide 30 students concurrent access to fashion design software via tablets, laptop and handhelds was initiated in last fiscal year. The virtual lab would allow students who were lacking the ability to practice and use this software outside the Physical Lab that has the Fashion Design Software installed. It also

ameliorates the need for additional licenses for the open labs while allowing students to do homework assignments. In the Fiscal Year 2014-2015 an additional 60 concurrent student access licenses will be added in the areas of Tourism and Hospitality and EMS.

### **Video Conferencing**

- Video conferencing solution using Revision (Avaya) platform was implemented, this solution allowed faculty and students to interact via video conferencing for both online and hybrid courses. The last fiscal year we added capacity to go from 20 concurrent users to 40 users. In the fiscal year 2014-15 we will increase the number of users to 60. The solutions work on all mobile platforms namely Android and iOS. Based on usage we will upgrade the solution to do 40 simultaneous conferences and 1,200 users. Total Budget allocation \$30,000.

### **Wireless Expansion and Upgrade Project**

- We will continue the process of adding access points in class rooms and exterior areas to accommodate wireless use through thin clients and mobile devices. The project entails adding 50 access points. Budget Allocation \$ 35,000 for Access Points, \$ \$15,000 for additional Node licenses and \$ 25,000 for cabling/enclosures. Total budget allocation \$75,000