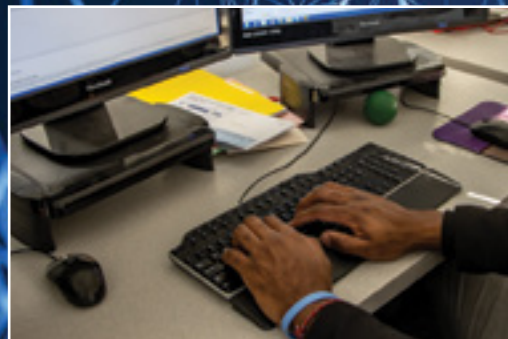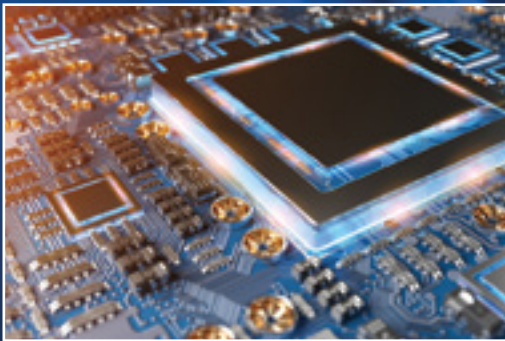# Center for Information Technology

## Annual Report

## 2019

HAMPTON UNIVERSITY

*"Nothing ever comes to one, that is worth having, except as a result of hard work."*

Booker T. Washington

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## A MESSAGE FROM THE SENIOR VICE PRESIDENT

Greetings:

This annual report highlights the extensive work undertaken and accomplished by the Hampton University Center for Information Technology (CIT) over the past year. There are four areas of focus to this report: *Around Modernization, Around Academics, Around Administration, Around Campus, and Beyond 2020*.

I think we all can agree that the degree of disruption facing the University is unprecedented, driven by shifting student demographics, velocity of technological innovation, online learning, academic research collaborations, and student/parent expectations for a modern educational experience. Technology and mobile devices are everywhere on our campus. Students are using digital tools both in and out of the classroom. Faculty and students alike expect fast wireless connection as part of the modern educational experience. The technology landscape is constantly changing.

Against this backdrop, the CIT has been working diligently to upgrade the University's comprehensive network infrastructure and to support mission-critical information systems. While much of their work has been "behind the scenes," let me assure you that they have been laser focused on strengthening the University's abilities in technology-enhanced learning and broadening the University's reach through strategic partnerships and external funding opportunities. These crucial initiatives flow from a well-thought-out CIT Strategic Plan.

The Strategic Plan reflects a clear understanding of this 21st Century reality: When students and faculty struggle with access to what they need for learning and teaching, due to slow Wi-Fi, the student experience is adversely impacted and diminished. The University knows that keeping student learning at the center of investments is vital to its future. This challenge, however, is not unique to Hampton. With the ever-increasing number of Wi-Fi-enabled devices being introduced to college and university networks across the country, many other colleges and universities struggle to meet student demands and expectations related to their wireless experiences.

What our stakeholders need to know is that we are committed to meeting this challenge, and we *ARE* meeting this challenge! Working together, we have made significant improvements and there is yet more to come.

I hope you will take some time to read more details of our IT improvements and initiatives over the past year, as well as plans for the future, as highlighted in this report.

I thank the CIT and its leadership for their diligence, self-motivation, dedication and collaborative spirit in advancing the University's digital transformation.

I look forward with great anticipation to even more IT improvements in the year ahead.

Paul C. Harris
Senior Vice President

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# Center for Information Technology

The Center for Information Technology (CIT) provides technology leadership and support to Hampton University and serves as the primary source of information technology services and support for students, faculty, staff, and researchers.

## MISSION STATEMENT

Provide secure, reliable, integrated, and SMART technological solutions that align with Hampton University's academic, business, administrative, and research goals while simultaneously providing the highest levels of customer support.

## DEPARTMENTS

· Advanced Technology Mall (ATM)/ Help Desk
· Computer Center
· Media Productions
· Education Services/Blackboard
· Network Services
· Web Services

# Information Technology Advisory Committee

The diverse members of the Information Technology Advisory Committee (ITAC) support academic and administrative interests of the faculty, staff, students, and parents of Hampton University by promoting the innovative and transformative use of information technology.

## MISSION STATEMENT

To advise and offer Hampton's leadership recommendations in support of the strategic objectives that support and develop needed guidelines, policies and standard IT practices at the University. To further Hampton's mission and goals through the effective use of information technology.

## GOVERNANCE

Hampton University (HU) is building upon change. The demands for transformation on HU are ever increasing. The CIT is constantly seeking out new and innovative ways to manage our workload by supporting more important initiatives of the University while improving operational processes.

To achieve this aim, we must continually modernize the technology while simultaneously managing the mounting demands and aligning priorities to meet the tactical and strategic needs of Hampton. We greatly rely on the input of our customer community which includes the students, faculty, administration and staff. Through the ITAC , we work together to determine how to best utilize resources to complete the most essential tasks. In 2019, with a purpose to provide the latest technological innovations, we began reviewing the effectiveness of the current governance structure and identifying the membership who would  co-lead working groups across the university.

Through collegial conversations, the ITAC comes together quarterly to actively and creatively engage and identify the most important technology issues to address. We endeavor to bring transformation to the University though consensus that will impact technology issues for Hampton University.

## ITAC MEMBERSHIP

### Chair

Dr. Alissa Harrison — Assistant Vice President for Information Technology

### Members

Dr. Michelle Penn-Marshall  — Vice President for Research Dean, Graduate College
Mrs. Denise Nichols — Assistant Vice President for Business Affairs and Comptroller
Ms. Tina Rollins — Director, Harvey Library
Ms. Tira Jackson — Title III Coordinator
Dr. Gerard Hall — School of Business Representative
Dr. Ralph Charlton — School of Liberal Arts & Education
Ms. Marci Turner — School of Engineering and Technology Representative
Dr. Mikhail Bondarev — School of Pharmacy Representative
Dr. Indu Sharma — School of Science Representative
Dr. Shevellanie Lott — School of Nursing Representative
Dean Kim Luckes  — University College
Mr. Aleczander Whitfield — Administrative Services
Chief David Glover — University Police
Mr. Don Rose — Athletics
Mrs. Jorsene Cooper — Registrar
Dean Angela Boyd — Dean of Admissions
Mr. Martin Miles — Director Financial Aid & Scholarships
Dean Davida Plummer  — Scripps Howard School of Journalism and Communications
Dr. Johnna Harrell — College of Virginia Beach
Dr. Rikesha Fry-Brown — Honors College
Dr. Jarris Taylor Jr. — Leadership Institute
Ms. Denise James — Student Success Center
Ms. Patra Johnson — Freshman Studies
Dr. Vanessa Thaxton-Ward — Museum
Ms. Rikki Thomas — Human Resources

### Ex Officio Members

Mr. Robbie Harper — Network Services
Mr. Darien Hawkins — Computer Center, Technical
Mr. Larry Ingram — ATM/Help Desk Services
Mr. Derrick Rea — Web Services
Mr. Kevin Ricks Sr. — Media Productions
Dr. Katina Ward-James — Educational Services/Blackboard
Ms. Stacy Harden — Computer Center, Operations

# Around Modernization

## "AS IS"

Technology ages quickly.  To keep systems current, we must update and upgrade the existing infrastructure to keep pace with technology, security requirements, the end user policy, procedural, and process changes.

The number of systems, equipment, and devices nearing End of Life/End of Service (EOL/EOS) complicates Hampton's goal to modernize the infrastructure.  Addressing the needs is a time-intensive and resource challenging endeavor.  In prioritizing the modernization effort around campus, the CIT addressed three specific initiatives.

Collectively, upgrading the network infrastructure, upgrading Banner 8 to 9, and upgrading the Windows platform from 7 to 10, will underpin a direction that brings the University into 2020 and beyond.

### Network Upgrade

The current state of all core switches, routers, and other network devices in use on the Hampton University Campus are EOL/EOS. There will be no maintenance support or service for the devices after 2019.

The speed of the network Is limited to 1Gbps and cannot connect faster than 100Mbps.

There is inadequate redundancy in the connections between the switches in each building. The backup systems in place with in several network closets are old and experiencing failures. There are unpredictable power issues throughout the campus.

### Banner Upgrade

Ellucian is at EOL/EOS and will no longer support Banner 8x.

Banner 8 is an outdated user interface that has needed upgrading for several years and the software has browser compatibility issues with Java.
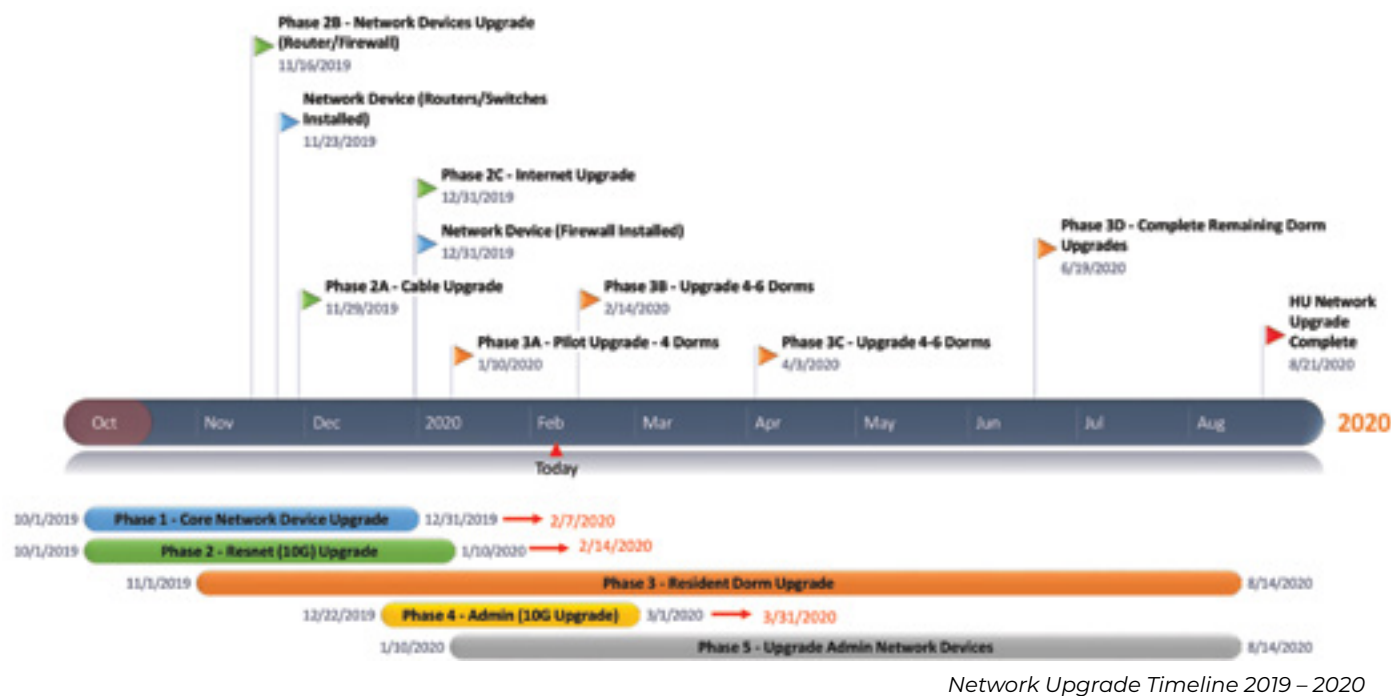
### Windows Upgrade

Effective January 14, 2020, Microsoft is at the end of service for security updates regarding Windows 7.

Windows 7 is outdated and introduces system vulnerabilities for hacks, malware, viruses, and future security flaws.

# *Network Upgrade*



*Network Upgrade Timeline 2019 – 2020*

Hampton University's effort to upgrade the network started in 2018. After conducting a university-wide cable and network assessment, the network team determined that much of the infrastructure was at end-of-life and end-of-service. The network's core routers, firewalls, and switches needed replacement in order to meet the increasing need for bandwidth by the students, faculty, administration, and staff. The existing routers could barely handle 1 gigabit-per-second; however, the planned upgraded routers will position the University to move to a minimum of 10 gigabits-per-second. The majority of high intensity bandwidth users and the catalyst of most of our current network issues reside with our residential users. As such, we focused our initial attention on the Residential network or our ResNET.

The network upgrade project is an extensive undertaking, consisting of five (5) separate phases:

- Phase 1 — Core network device upgrade

- Phase 2 — ResNET (10Gbps) upgrade

- Phase 3 — ResNET equipment upgrade

- Phase 4 — ADMIN (10Gbps) upgrade

- Phase 5 — ADMIN network equipment upgrade

Phase 1 began during the fall of 2019 and involved the receipt, configuration, and testing of the new ResNET equipment. We are currently in phase 2 of this complex project. As a part of phase 2, the networking team installed and terminated the fiber cabling for the new 10 Gigabit circuit at the end of December 2019. In parallel, we are working to implement this circuit and complete the new fiber connection external to campus. Although the team has mostly replaced and configured the core ResNET equipment, completing final configurations require the assistance of our Internet Service Provider (ISP). In working closely with our ISP to complete the fiber build-out and test the new fiber ring, explicitly constructed for Hampton University, we anticipate completing the bandwidth upgrade in early 2020.

**Before Network Upgrade**
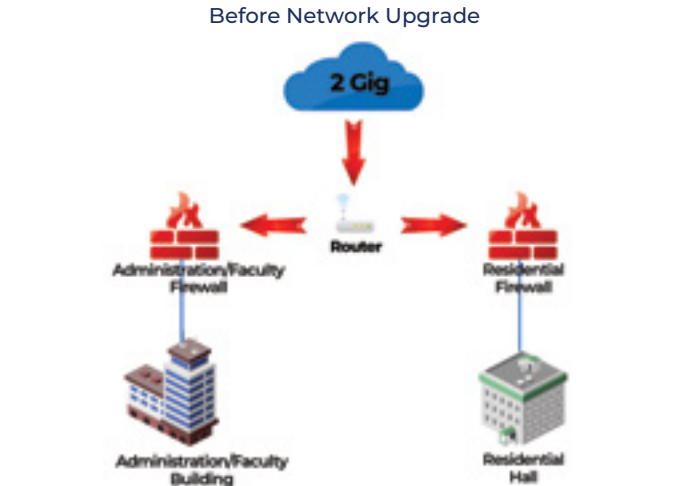


Once the core equipment and bandwidth upgrades are complete, we will begin completing the remaining configurations required to connect to our new network. This phase will involve testing at each residence hall location to evaluate before and after performance results. By assessing network speeds against previous results, we will provide necessary data to the Hampton University stakeholders for review.

The expectations for each dormitory location is to offer a minimum wired connection speed of 100 Mbps. As we move forward, we will replace all core dormitory network switches, with the end result being connection speeds ten times the current access. Our goal is a connection speed of up to 1 Gbps.

The changes to bandwidth and network equipment should virtually eliminate many of the current issues that our residents experience when accessing the network from their dormitory locations. Some locations will move from a pedestrian speed of 10 Mbps to speeds that mirror 1000 Mbps (1 Gbps).

In addition to piloting dormitory locations to provide direct data for evaluation, the networking team is positioned to analyze the phase 2 result. Using strategic locations, they will extrapolate the data collected to the ADMIN network and pilot administrative, faculty, and academic buildings. The goal is to complete the phase 3 and phase 4 requirements by August 2020 thus laying the groundwork for the phase 5 campus-wide network device upgrade. With these ongoing network improvements, we hope to successfully fulfill our role of maintaining the University's "Standard of Excellence" mission.

**After Network Upgrade**
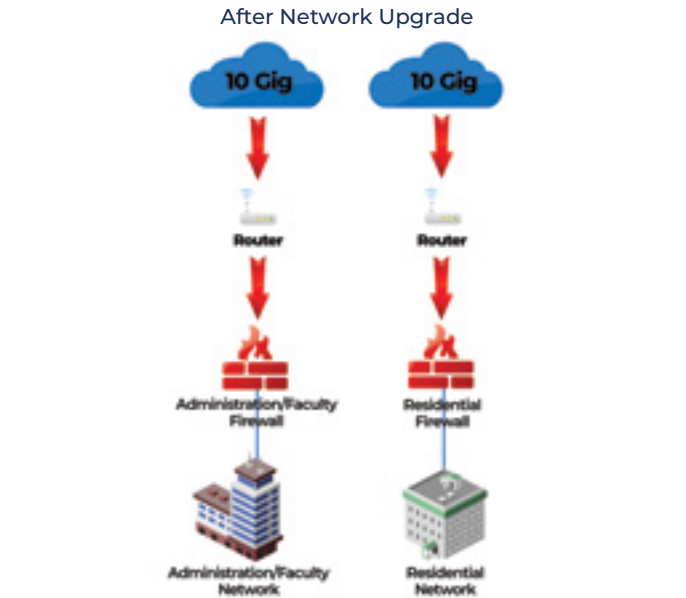
# Banner Upgrade

According to Bill Gates, "Maintaining a consistent platform also helps improve product support — a significant problem in the software industry." Indeed, technology ages quickly and we must upgrade and update our platform to keep pace with a rapidly changing environment, security requirements, and the needs of our user community.

Banner Essentials 9 is Hampton University's enterprise resource planning (ERP) system. The Banner suite includes four comprehensive modules: Student, Financial Aid, Finance, and Human Resources. Together, these modules underpin the technologies that integrate all systems at Hampton University. While Ellucian, Banner's parent company, announced the termination of Banner 8 support at the end of 2018, Hampton University received extended support through 2019. The upgrade to Banner 9 is required as we no longer can rely on our Ellucian partner for support of this outdated software tool.

Since Banner 8 relies on older technologies such as Oracle Forms and Reports, the move to Banner 9 will offer a more adaptable, flexible, and mobile friendly experience for users. For example, Banner 9 expands the number of platforms that users can access (e.g., tablets, mobile devices) and will ease the administrative burden for many of our local IT personnel. However, Banner 9 required modernization of the current infrastructure. While a separate project,

moving from aging web servers to more modernized Linux devices was a needed upgrade for the Banner 9 transition; it also supports the overall changing needs of our campus.

Another positive outcome of the Banner 8 to Banner 9 transition is the upgrade to a Single-Sign-On (SSO). End users will use their existing Hampton University domain accounts while on-campus to authenticate, or access Banner 9. Using SSO increases security because users will have fewer passwords to remember. More importantly, SSO streamlines user account maintenance for IT support personnel. Lastly, as the University moves to more secure two-factor authentication mechanisms (e.g., smart-card login),

we will be able to leverage the Banner 9 Essentials ecosystem. Credentials will automatically pass to the Banner 9 Essentials system. With this second form of identification comes the decreased probability that an attacker will be able to impersonate a user and gain access to computers, accounts, or other sensitive resources. These future authentication protocols and credentials offer the campus improved security.

With the new foundation and infrastructure in-place, we are currently completing the move to Banner 9 Essentials. This move enables improved functionality, streamlined integration with third-party vendors, agile development, and greater flexibility for branding and personalization. Improvements will also be realized in the ease with which product updates and future upgrades can be performed.

In 2020 we will build and expand implementation of Ellucian modules and integrate with other Ellucian application products. Because Banner 9 Essentials seamlessly interoperates with Evisions Argos enterprise reporting, our end-users will be able to create and utilize built-in, analytic, and ad-hoc reporting.

Our goal is for all administrative and functionality offices to move to the new platform by the first quarter of 2020.

# *Windows Upgrade*

In a recent 2019 Business News article that discussed why Businesses should upgrade to Windows ® 10 now, contributing writer Howard Wen outlined 8 reasons that guided Hampton University's decision to move to this operating system.

*8 Reasons to Move to Windows® 10*

1. Microsoft ending Windows ® 7 support
2. Ransomware prevention
3. Stronger malware security tools
4. Safer web browsing
5. Keeping your frequent business contacts on the taskbar
6. More efficient updates for Windows 10
7. Syncing your work between personal and work computers
8. Configuring your business's computers quickly

Windows 10

Windows® 10 has evolved since its introduction in summer 2015. This platform is a safer and more efficient operating system and offers better integration with applications we need to update our infrastructure. Microsoft's commitment was to provide 10 years of Windows® 7 support, that period ended January 14, 2020.

Working together the CIT's ATM/Help Desk and the Computer Center are upgrading compatible user computers to the latest version of Windows® 10. Additionally, we are replacing all computers that are incapable of running Windows® 10. Simultaneously, we are upgrading and replacing servers running Windows® Server 2008 and 2008R2 with Windows® Server 2019. Often, users are concerned during an upgrade process. *Do not worry!* All appropriate measures will be taken to ensure user data is backed up from the Windows® 7 installation and then later restored following the Windows® 10 upgrade. For sensitive systems, or users with very sensitive data,

additional measures will be taken to ensure data integrity by preserving the existing system state. What that means to you is that you need not fear data loss. *Do not worry!*

Although Microsoft has ended support for Windows® 7, we ask that our Hampton University community understand that the operating system will continue to operate as expected. By installing the latest version of Symantec Endpoint Protection, your systems will be secure until the last computer is upgraded or replaced. By now all individuals with older operating systems might have noticed that the Help Desk personnel are personally conducting building-by-building assessments to upgrade any existing Windows® 7 computers. Depending on several factors during the upgrade process, to include data backup and restoration, four hours might be needed. Our goal is to complete the upgrade within the first quarter of 2020. We are dedicated to this mission because we *must* move to Windows® 10 now!

# Around Academics

The CIT's mission is to provide secure, reliable, integrated, and technological solutions for our faculty, students, administrators, and research teams.

To help facilitate delivering SMART solutions, we used the ITAC to help facilitate how we enhanced academic productivity in 2019. SMART goal identified by this group adhered to the following tenets:

- Specific — Clear and specific endpoint

- Measurable — Able to track progress with defined tasks and milestones

- Achievable — Attainable with reasonable objectives

- Relevant — Pertinent with significant benefits

- Time-bound —— Quantifiable timeframes with a focused duration

By adhering to the principals of developing a consensus regarding the technology priorities, the ITAC identified several initiatives and attacked them during the past year. By developing sub-groups and partnering with the CIT's designated Ex-Officio Members, we accomplished several projects in 2019. In supporting the faculty, the teams completed upgrades and positively improved Blackboard, Perceptive Content (formerly ImageNow), and Classroom

Technology. In supporting the student experience, StarRez and Collaboration Lab projects enhanced the students' experience campus-wide.

Many institutions make significant investments in the new technologies and distribute technological capacity across their campuses. By linking our faculty with Hampton's students as well as with one another, we are improving how they work in relation to academics. In providing the necessary IT infrastructure and seeking faculty involvement, we elevated a missing element. The overarching sense of purpose, coupled with the practical understanding of the shape and consequences of successful innovations, motivated these teams to accomplish several projects. Adding Kotter's sense of urgency helped the team understand the overarching vision. In doing so, we were able to realize several goals in 2019 around academics.

*Education Services 2020*

As we move to complete the installation of the Banner 9 Essentials, Education Services will continue to work with the Computer Center to develop and maintain a training plan that supports the user community. Training all new Banner 9 users and retraining existing personnel on basic navigation will be an ongoing task. For that reason, Education Services will continue to offer bi-monthly employee training every other Wednesday.

Additionally, recognizing the challenges in our Learning Management System (LMS) environment requires that we reach out in innovative ways, both internally and externally to keep abreast of changes. External user groups and establishing tools to share knowledge is a necessary first step. By establishing the Lower Virginia Blackboard User Group (LoVBUG), we offer an opportunity to leverage Blackboard administrators' expertise, collectively address issues or challenges as they arise, and stay informed about the latest trends and product updates. We plan to help our partner institutions and remain a key contributor toward innovating education in our region, and enhancing and improving the greater Blackboard community. The LoVBUG currently includes Christopher Newport University, Eastern Virginia Medical School, Norfolk State University, Old Dominion University, Regent University, Virginia State University, and the College of William and Mary.

We also recognize that the campus has competent users with untapped potential. We are planning to create a Blackboard Ambassador Program that will include a representative from each school at Hampton University. The school's ambassador will be a faculty member who heavily utilizes the Blackboard Learn system and will serve as the school's point of contact for Blackboard Learn. The ambassador will attend a regular meeting with the Blackboard Administrator to receive system updates and discuss the latest tips/tricks,best practices, and foster innovation and collaboration between the schools and Education Services.

# *Supporting Faculty*

An efficient LMS platform enables effective overall control of the administration, automation, and communication with the user community. An updated, current LMS promotes teacher productivity and facilitates effective course content management. Upgrading the Blackboard Learn environment is a necessary first step for our faculty to be able to fully benefit from previously underutilized content modules.

## BLACKBOARD LEARN UPGRADE

By upgrading the Blackboard (Bb) Learn system from version 9.1 Q2 2017 to Q2 2019, the Education Services/Blackboard team introduced additional capabilities in December 2019. Some of these features were implemented as a direct result of the upgrade:

- New course availability settings
- Drag and drop files
- Cloud services integration
- Grade center cleanup
- Attendance tracking
- Submission receipts
- Discussion board "replies to me"
- Audio feedback recording
- Additional attempts for anonymous grading
- Reconciling privileges in delegate grading
- SafeAssign report format
- Annotated PDF downloading
- New Box View replacement
- Assignment reminders

## BLACKBOARD LEARN MODULES

Augmenting functionality is an outcome of upgrading the LMS. Blackboard learning modules provide instructors with an approach to support our students. Additionally, we installed and are enabling the following products in the Blackboard Learn system:

### *Outcomes Assessment*

Allows faculty the ability to collect student submissions to Blackboard, learn course assignments automatically across sections and disciplines, and by demographic filters.

Project kick-off: April 2019 Improv meeting: Dec 2019. The committee will continue to meet and assist with the implementation in 2020.

### *Analytics for Learn (A4L)*

Set of components that extract data from Blackboard Learn and provides the ability to slice, dice, and drill into a vast amount of longitudinal information about learning management system use.

With a project kickoff in March 2019, faculty now have a faster way to obtain data and help students keep on track in their courses. Students can access, monitor, and compare performance with their peers.

### *Ally*

Makes digital course content more accessible and helps instructors understand accessibility in a way that benefits all students.

In building a more inclusive learning environment student experiences can improve through the ability to control course content, download alternative formats, and automatically check for common accessibility issues.

Of the three learning products installed, we anticipate the A4L module to have a significant effect on the Hampton University user community. Education services need buy-in from academic leadership to support all installed services. As we move towards the next Projects Definition workshop in February 2020, we will align reports to stakeholder, identify configuration and customization requirements, and create a deployment plan for the campus. Lastly, we will conduct an on-site orientation and several training sessions during the spring 2020 semester.

## TRAINING/PRESENTATION

Formally, Education Services limited their training scope to Blackboard instruction and support. As we expand to support the Hampton University user community, we now include several areas of support under our training umbrella.

TRAINING

### *Individual and Group Training*

Personalized Bb training for faculty and department training

### *Semester Boot Camps*

Bb support and a Client Success Manager from Blackboard Inc.

### *New Faculty Orientation*

Technology overview with new faculty every semester

### *Grade Center Training*

Training to ensure faculty enter and calculate grades accurately in Bb

### *Banner Navigation*

Scheduled Bi-monthly Banner 8 navigation training for employees

### *Promethean Board*

Individual and group Promethean board training for faculty

# *Supporting Faculty* *continued*

### CLASSROOM TECHNOLOGY

Today's college students come to Hampton University armed with many personal technology devices. They expect, rather, demand that the technology in their residence halls and classrooms keep pace with their expectations to stay connected 24/7. In a 2016 survey of 500 university students, the researchers of the Wakefield study found that current technology used in many classrooms did not meet their expectations. The CIT/Media Production team is attempting to improve the technology deficit through the essential modernization of our classrooms.

Several educational interactive display technologies are used in educational settings, and educators offer feedback that using this type of equipment enhances the learning process for their students. Designed especially for the classroom, ActivPanel delivers the highest level of performance for the educational process. According to the company's solicited feedback, the majority of educators believe that educational technology accelerates learning in their classrooms by 82%.

In 2019, the University decided to make a meaningful investment and upgrade classroom technology to better serve the students. After analyzing several technologies, we decided to start updating the campus classrooms using Promethean Boards because the vendor offered a consistent maintenance plan,

training, and installation of their product. Using institutional funding, Hampton University purchased 10 Promethean Boards and installed seven by the Fall 2019 semester to start the process.

Increasing the use of this technology is a goal for the CIT department. However, there are several "dance steps" required to install these panels in our existing classrooms. First, the Dean collectively provided feedback to define the distribution process. Prioritizing needs in meetings and discussions, we started with upgrading classrooms with significant needs. An additional factor is that most of the classrooms had to be redesigned to accommodate ActivPanel. For example, the University's classrooms often had to upgrade electrical power and a wired internet connection to make them functional before installation.

As one might surmise, the overall response from the professors during the training process has been overwhelmingly positive. Similarly, our students are pleased and interact well with this new technology. While several of the classrooms upgraded had some form of media already installed, others had none. For the most part, equipment that was in classrooms was repurposed and moved to rooms that had no media. Repurposing adds to the campus' classroom technology footprint and increases the number of rooms that have some form of technology or media.

We recognize that we must increase the number of classrooms to support our "Digital Natives." Currently, there are 16 Promethean Boards installed and are functional campus-wide. The CIT purchased an additional five boards with Title III funding that will be installed during the Spring 2020 semester. We will continue to work to add to this number using university, grant, and private funding sources to support our students and faculty in the classroom.

*student worker, Davion Carmon training faculty member Dr. Shahidullah Shahid on the use of the Promethean Board.*

# Supporting Faculty *continued*

## PERCEPTIVE CONTENT

In fall 2012, Dr. JoAnn Haysbert, Executive Vice President, lead the establishment of "Electronic Yellow Brick Road." It was founded on Dr. William Harvey's vision of becoming a "doctoral university — high research activity" and to automate the Hampton University Grants and Contracts Systems Model. This vision is now being realized through the implementation of Perceptive Content (formerly known as ImageNow). Perceptive Content is used to route a document from a starting point to a finishing point during the Grants Management process.

**Perceptive Content™**
by Hyland



This process will provide members of the Hampton University campus an easy, electronic way to submit their Intent to Submit Proposal forms. The forms, the approvals needed, and any related content will be routed through the Perceptive Content workflow. Upon successful approval of an Internet Service Provider (ISP), notifications to the appropriate parties involved are facilitated in the workflow solution. The workflow will include the submission of the Request to Apply for Grant/Proposal and other required documentation. The Intent to Submit Proposal, Request to Apply for Grant/Contract and the Significant Financial Interest Disclosure forms were recreated as Perceptive Content eforms for faculty and staff to submit electronically. The approval processes will be automated based on the data within these forms. This solution provides accountability for all submissions, regardless of whether they were awarded or not. Long-term reporting, searching, status updates, and retrieval of Grants content will be achieved.

Over the last two (2) years upgrade discussions have occurred and are finally congruous with the Offices of the Vice President for Research, the Center for Information Technology under the leadership of the Offices of the Chancellor and Provost, and the President. The project is scheduled to commence in spring 2020. The overall project has been divided into three (3) distinct projects. Project 1 will focus on the Content Upgrade which is projected to last 8 weeks or less. It will involve the upgrade of Perceptive Content version 6.6 to the latest version of the Software (7.3). Project 2 will focus on Review & Administrator

Training of which an assessment of Grant Management solution will be performed. The projected 70 hour assessment is designed to identify opportunities for solution improvements, and business process efficiencies. Project 3 will focus on the Net-New Non-Production Environment Creation which is projected for 67 hours. It is expected to address ongoing issues, but primarily the following:

- Upgrading of the current version of Perceptive Content from 6.6.0 to 7.2.3, making Hampton University compliant with industry standards

- Providing platform agnostic availability which will eliminate accessibility issues, as well as the need for JAVA from existing desktop computer operating systems (Windows, MacOS etc.) and browsers (Firefox, Chrome, Edge etc.); but also to include availability to mobile platforms

- Provide reliable remote access without the need of VPN

- Provision and updated training resources for users considered system analysts, super users, power users, or other recognized POCs

In January 2019, Hampton University received the classification of "doctoral university — high research activity" from the newest Carnegie Classification Institutions of Higher Education catalogue. Perceptive Content will streamline the submission process for Hampton University faculty, researchers, and scholars.

# *Supporting Students*

## STAR REZ

Star Rez is Hampton University's web-based comprehensive student housing solution that completely integrates with our other campus IT systems. Some of the features and functionality of StarRez include supporting on-line housing applications, providing access for on-line student roommate and room selection, facilitating roommate matching, and providing core staff administrative functions such as bulk room assignments/auto-allocation, billing, reporting, email, and mail merge.

This widely used system by our peer institutions offers unique social media software integration that is useful in the roommate selection process. More importantly, StarRez allows our management to create and manage requests in a way to better suit the needs of our students. This housing software system impacts multiple units across various divisions to include Residence Life and Housing, Judicial Affairs, Physical Plant, Business Affairs/Student Accounts, and Special Projects. Similar to other on-premise managed systems, the CIT offers comprehensive on-site support, delivery, and maintenance of all the necessary software requirements.

This support includes updating all platform software licensing, performing needed infrastructure administration, and addressing all StarRez updates and upgrades to ensure day-to-day operational support.

StarRez is a premier software provider tool in the housing reservation market that offers a unique combination of features to support Hampton's Housing and Office of Residence Life. In supporting this effort, the CIT's Computer Center recently implemented the following features and functionality:

### *Student Self-Service Housing Portal*

- Compatible with all modern internet browsers, uniquely suited for students using Mac/iPad/iPhone to access easily using Safari

- Configuration Utility (Content Management Tool) that enables content edits/updates from a user without web development skills, knowledge of HTML, or the need for additional 3rd party web authoring or development tools such as ColdFusion, Dreamweaver, or others

### *Dynamic Lists*

- Ability to utilize user-defined lists for powerful bulk processing of check-in/out, billing, emails, etc

### *Occupancy Graph*

- The interactive color coded Occupancy Graph that allows viewing and editing of all bookings, filtering display by room type or location

- It provides the ability to export the Occupancy Graph to MS Excel or HTML formats

### *Reporting*

- The dashboard summary page provides a user-defined start page that includes favorite reports, task lists, and graphical summaries; Chart Generator — automatically create statistical charts without any technical expertise

- Report Generator — StarRez provides a unique built-in reporting tool that DOES NOT require Crystal Reports or any third party software. Using the Report Generator, users can apply simple filters that are logical and report on variable combinations of data and export to Text, Excel, XML, PDF, and CSV files

- Scheduling Function — automatically set reports to email, export, or print on a user-defined time-line

### *Automatic Assignments*

- Uses a powerful and user-friendly wizard-driven tool that allows saving and reusing of previous allocations and does not require technical or database skills to allocate residents in bulk

- Includes the ability to drag and place a set-list of residents into spaces

- Ability to run concurrent live room applications for groups such as first year students, transfer students, and graduate students

- Allows for a resident to reserve a Suite (a group of adjacent rooms) during sign-up

- Integrated/Built-in roommate matching tool that supports secure search messaging and automatic matching

### *Email Communication*

- Includes a built-in feature that doesn't require complex mail merge or SQL skills

- Wizard driven functionality empowers non-technical users

- Correspondence tracking enables efficient tracking of all email correspondence, including content and attachment

- Provides the ability to merge fields from the database into email content to personalize each message

- Emails can be automatically sent based on student completion of Online Application steps

# Supporting Students *continued*

### University Standards & Integrations

- Standards-based web server requirements leveraging Microsoft Windows Server, SQL Database Server, and IIS Web Server

In selecting StarRez as Hampton's room and roommate selection tool, we defined specific vendor criteria to ensure the software offered the best value for the University.  For example, we based selection on established vendors with experience in the University Housing and Conference Services space, formal integration partnerships with our vendors (e.g., Ellucian and Colleague Interface API), and successful implementations at more than 250 sites in the USA (e.g., comparable to Hampton). Equally important, we required that the vendor implement solutions that were browser-agnostic, ingrate with Active Directory for staff login and access control, use InCommon, and maintain at least a Payment Card Industry Data Security Standard (PCI DSS) Level 1 compliant rating.

### COLLABORATION LAB

During Fall 2019, The James T. George School of Business opened its doors to an exciting new space. Developing this space started with the support of the CIT. The Collaboration Lab, affectionately known to us as the "CollabLab", is located in Buckman Hall, Room 124.  Prior to the establishment of the CollabLab, there was an old computer lab with a few outdated non-working desktop computers, tables with six mismatched chairs, and no easy way to plug in mobile devices. As a result, students rarely used the space unless they were in dire need for meeting space.  The students in the 5yr MBA program seeking space to study or wait for an evening graduate class primarily used the space. The Dean often referred to it as "dead space" because it was not being used productively and was very unattractive to visitors.

Under the leadership of Dr. Ziette Hayes, Dean of the School of Business, and in partnership with the CIT, the space is now a "hot spot" for students to collaborate. In her view, "It is important that we create a business environment that promotes productivity. The CollabLab is a step toward simulating a business environment where teams work together to solve problems." Dean Hayes is an avid believer in technology and wants to see more of her students using technology for productive purposes, not just for entertainment.  In the words of a student,



*"It is important that we create a business environment that promotes productivity."*

"The CollabLab has given students the opportunity to see the School of Business in a renewed light. Not only are students able to use advanced technology to more efficiently complete group assignments, but also have the ability to work individually, conduct meetings, etc., ultimately building overall morale."

Dean Hayes is very proud of how her students have managed the space.  It is kept clean and students collaborate while respecting one another in the space. Our Alumni and Corporate visitors have indicated it is very similar to their "hub" spaces where they collaborate while at work. The School will officially name the lab and continues to maintain its investment in technology.

### CollabLab Features

- Colorful furniture with numerous electrical outlets and connectivity for mobile devices

- Carpeted flooring for a "business-like" feel

- Pod seating for approximately 30 people

- Wireless display screens at each pod with numerous options

- Dedicated Printer

# Around Administration

The Admissions department sponsored a project that aligned with the goals of the ITAC to create an institutional vision of streamlining the college application process for students. By aligning the requirements with the current technology, we are improving student access, outreach, and administration for Hampton.  While the ITAC identified several projects that might enhance the administrative experience, the group consensus to complete this initiative aligned with the University's objective to improve the prospective student enrollment process in 2019.

## *Supporting Administration*

### COMMON APP

Hampton University and the Common Application or "Common App," the non-profit membership organization dedicated to access, equity and integrity in the college admissions process, announced Hampton's addition to their on-line resources for students and counselors on September 30, 2019.

"Hampton University's membership with the Common App provides a wonderful opportunity for prospective students, parents, teachers, and guidance counselors to get an up-close and personal look at Hampton University's excellent academic programs and exceptional student services," said Dr. William R. Harvey, Hampton University President.

Used by more than three million applicants, teachers, and counselors across the United States and around the world every year, the Common App platform streamlines the college application process for students. It connects them to additional support resources, including financial aid and scholarship opportunities, virtual mentors, and more. "Hampton University is excited to announce our new membership with the Common Application beginning in the 2019 – 2020 application season," said Angela Boyd, Hampton University Dean of Admissions. "We're looking forward to expanding our reach, contacting new students, and showcasing all of the amazing opportunities they can pursue here at our 'Home by the Sea.'"

Recently, the Common App has launched a new website designed to help students better plan for college, explore their options, and apply. In addition to an enhanced web experience, Common App is introducing several user experience improvements to the 2019 – 2020 application. Specifically, applicants will now be able to better access the application from mobile devices and tablets.

Jenny Rickard, President and CEO of Common App has shared that

"Common App is launching the new application season with great joy and a refreshed look and feel. The new brand helps us connect with the broader range of students, counselors and institutions that we serve, and allows us to grow our programs and services — beyond technology — in support of our mission. We want all students to feel supported by Common App — regardless of where they are in their journey. Whether they're already thinking about applying or if they're not sure whether or not college is right for them. We want to provide the tools and resources to help more students get to and through college."

Central to the new website are new college exploration and search tools that will help prospective applicants learn more about Common App member institutions. Common App's new college profile pages provide a more engaging experience for students, and enable Common App members to showcase unique attributes about their institutions, including featured academic programs, student life, and virtual tours.

Visitors to the new commonapp.org will also be able to learn about new research from Common App to improve college access, as well as outreach campaigns conducted through Reach Higher, an initiative launched by former First Lady Michelle Obama during her time at the White House that is now housed at Common App.

# Around Campus

Technology is changing around Hampton University. In standardizing the management, maintenance, design, and infrastructure for the University's college and department websites, the CIT teams are working to change how we support the campus. Additionally, the CIT partnered with Campus Security to help implement a parking administration system. Changes made to innovate that process will facilitate campus parking management for all users who park on our campus. Both projects are ongoing initiatives that will improve productivity and access to end-users across the University.

While several departments within the CIT have a "ticketing system," this approach to tracking customer support can be confusing and lacks accountability. A Help Desk ticketing system should collect all support requests from various channels and manage them from one place. By reintroducing TrackIT as the CIT's department-wide Help Desk ticketing system, we plan to provide a holistic solution and improve our Help Desk and Asset Management operations.

Around campus, we plan to change the face of Hampton through enhanced website access, efficient parking management, and effective responses to requests for assistance.

## OFFICE OF WEB SERVICES

The Office of Web Services (OWS) at Hampton University continues into 2020, while building upon improvements made in the department's ability to analyze complex problems and deliver interactive solutions.  In 2019, OWS made advancements in three critical areas, which directly support the University in its need to address current technological challenges. These three areas are the implementation of the Content Management System WordPress, migration of the web server environment to a Hyper-V environment and the migration of the campus wide Annual Planning Report to the TrackIt! Management System.


*Hampton University Military Affairs Website*

To make available modern and interactive websites for Hampton University, OWS has set up a WordPress server with a Linux Apache MySQL PHP (LAMP) stack. University departments now have the ability to work in cooperation with a web design team to redesign their old ColdFusion based websites. The new

WordPress platform provides more individual control to the client via a graphical user interface Control Panel. Redesign of the Hampton University Museum website and the Military Affairs website were notable achievements.


*Hampton University Museum Website*

To ensure the University web sites exceed protocols for security and redundancy, OWS in collaboration with the Computer Center migrated the web and data servers to a Hyper-V environment. Hyper-V is a Microsoft product that will consolidate the University's Information Technology (IT) infrastructure, thus lowering hardware requirements. Optimization and redundancy are further benefits of the Hyper-V environment.

OWS has been instrumental in the migration of the campus wide Annual Planning Report from a ColdFusion Application to the TrackIt! Management System. The TrackIt! ticketing system includes a change management solution. This change management solution will minimize IT infrastructure change risks through the use of effective review, enforcement and approval automation.

## TRACK-IT!

Hampton University purchased Track-It! as a CIT initiative in December 2019 to assist in eliminating the manual triage of work request issues for Banner 8 support, computer systems issues, and identification of needs from the Hampton University Community.

The modules of Track-It! software system include: Help Desk, Knowledge Base, Change Management, Purchasing, and Asset Management. This system retains known issues reported, worked, and captures the resolutions that resolve the issues. It helps provide an empirical knowledge base that lessens trial-and-error solving of previously resolved issues.

Initial implementation of Track-It! included:

- Phase I — Capturing issues directed to the Computer Center via emails, phone calls or meetings

- Phase II — Tracking several department initiative requests

- Phase III — Including CIT's Help Desk, Networking, Web Team, and Media Production Teams

Track-It! will be a centralized repository of historical knowledge of known issues and a quick reference for resolutions to reoccurring issues and troubleshooting. This will reduce the time and facilitate searching for remedies on the web to resolve issues.

# Around Campus *continued*

The purchasing feature tracks purchases submitted, status of purchases, and identifies the person accountable for the purchase.

The change management feature supports collaboration between University departments for decisions, approvals, and retains historical conversations by capturing the email transmissions.

The asset management feature tracks assets in our HU Community.

Hampton requires a comprehensive, integrated Help Desk solution that supports responsivity within the CIT. Around campus, we are implementing Track-It! to fill the gaps and promote accountability

### T2 SYSTEMS

T2 Systems' Permit Management Solution will be implemented across Hampton University's campus to manage on-campus parking. The Hampton University Police Department's Traffic Office will be able to do more with limited staff. By design, this parking management solution supports revenue generation and saves manpower hours. Permit Sales can be generated by customer permit purchases and renewals completed on-line. Permits can be physical or virtual. Depending on the type, they may or may not require facility selection or certain documentation. The T2 Systems' Solution helps support permit management and parking access by managing wait-lists. Dashboards make it easy to visualize revenue, inventory, and historical data. Dashboards can be customized, saved, and monitored; thus, providing us with actionable data on decals/permits. The T2 Systems' Solution is compatible with BlackBoard and will allow the Hampton University Traffic Office to access preexisting data without having to do repetitive data entry. Enforcement officers also receive real-time information on their handheld devices regarding payments and permitted or timed parking. This ultimately results in an easy and quick way to identify violations.

# Beyond 2020

network administrator, Andrel Smith fits student,
Steven Williams with a virtual reality visor

## AUGMENTED VIRTUAL REALITY (AVR)

Technology disruption is continuing to cause a considerable shift in the job market. According to the Bureau of Labor Statistics, there is a growing gap of skilled workers in the workplace. Further, productivity growth has slowed because of the aging population. The productivity growth rate in the US from 2005 – 2014 was half that of the preceding decade. As changes in technology simultaneously replace or eliminate millions of jobs, the marketplace is creating new positions and industries to keep pace with the change. As the rate of change in technologies accelerates, a resulting shift in the existing jobs might disappear within the next few decades. To keep pace with the rapid changes in the job market, we must prepare our students, the future workforce, with the knowledge needed to be competitive in the labor force.

Universities must address the increasing gap between job openings and new hires through innovative educational opportunities that address the growing shortage of skilled workers that can perform the new jobs created by technology disruption. By leveraging automation and artificial intelligence-driven machines, companies can now replace the number of people and repetitive tasks with technology.

With this in mind, the Scripps School of Journalism and Communications is at the forefront of this trend. The introduction of Augmented Virtual Reality (AVR) solutions show that this school recognizes the need to offer innovative opportunities to their students. This school recently received AVR and related Creator AV education software to create/develop graphics content.

Scripps Howard is in the process of incorporating the technology into the Spring 2020 course offerings. They plan to fully utilize the capability of augmented and virtual reality in their classrooms in 2020 by acquiring the Virtual Trainer and AR Assist Education platforms. Once they implement the AV/VR capability, the next step will be to use the Creator AV education software. When the needed components and equipment are acquired, the Scripps Howard will have full operational AV/VR capability.

## TRACK-IT! FOR 2020 AND BEYOND

Track-It! will be Hampton University's help desk solution and will reduce the time spent manually performing ticketing tasks, using spreadsheets or accessing databases. Track-It! will allow us to preserve historical knowledge. This will help knowledge transfer for tasks performed (e.g. personnel departing, transferred, etc.). Additionally, students, faculty, and staff will be able to obtain assistance through Track-It! by accessing our Self Service module email, or text submissions.

## VERITAS NETBACKUP

Veritas NetBackup is an enterprise-level diverse backup and recovery suite. It provides cross-platform backup functionality to a large variety of Windows, UNIX and Linux operating systems. Currently, system backups of critical information (i.e. Banner) are managed using Veritas NetBackup Solution version 7.5. For the year 2020, the Center of Information Technology plans to upgrade from version 7.5 to version 8.2 to maximize our data protection investment, improve functionality and performance, enhance disaster recovery and benefit from new software features. One key feature is NetBackup's ability to integrate with cloud technology.

Amazon Web Services (AWS) provides on-demand cloud computing platforms and APIs to individuals or organizations on a metered pay-as-you-go basis. Our goal is to form a partnership with AWS to securely send backup data to their online cloud services and most importantly to pull down restores. Together, AWS and Veritas can help support our transition from only utilizing on-premises storage environments to a more scalable method of storage. Adopting AWS Cloud Management services in the near future has the potential to reduce storage cost and business risk, while ensuring the continuity of business operations. Improving our current backup and recovery system process can only have a positive impact on our campus community. By protecting our data from natural disasters, equipment failures and user errors, we are helping to ensure Hampton University's success for years to come.

# Beyond 2020 *continued*

## OFFICE OF WEB SERVICES

Looking to 2020, OWS will be leveraging Amazon Web Services (AWS) in two strategic ways. First, AWS will be used as a data recovery solution for the University's web servers. Second, AWS virtual server capability will be utilized to develop a University faculty/staff intranet. This solution will be built-out with Microsoft's SharePoint platform and will include a faculty/staff portal. We look forward to continuing our support of Hampton University's interactive experience into the new decade.

## COLLABORATION WITH EXTERNAL PARTNERS

Hampton routinely seeks partnerships and commitments to enrich the educational experiences for our students, academic schools, the campus, and the community at large. During 2019, the CIT led collaboration meetings and technology activities with several external agencies. Some of the partners that we will continue to engage include Amazon Web Services (AWS), the Office of Director National Intelligence (ODNI), and World Wide Technologies (WWT).



Engaging with external partners promotes the CIT's goal to facilitate cross-functional and cross-departmental communication innovations. When Dr. JoAnn Haysbert participated in the AWS VA statewide announcement on September 20, 2019, the AWS Educate team enhanced the relationship. We are conducting several on-campus meetings with the School of Science in support of infusing cloud technology into the curriculum. In 2020, AWS will explore several of the options outlined in Hampton's Concept Paper. We are actively exploring the creation of a Center of Excellence (CoE) or Cloud Innovation Center (CIC) to support the faculty and students. Some of the activities include:

- Building faculty/educator capacity to teach cloud curriculum at Hampton

- Improving the University's operational efficiency through AWS technical/SME support

- Offering hands-on cloud experience for students

- Establishing a pipeline for AWS/cloud careers

- Establishing internship opportunities

- Implementing a CoE "Fellows" program and defining professional development plans for Fellows approved by Hampton and AWS

- Sponsoring AWS site visits for AWS Fellows plus other project work and engagement opportunities

In partnership with AWS, Hampton University is actively identifying opportunities to collaborate with education, infrastructure, and research projects.



Hampton recognizes that partnering with federal agencies might offer benefits to several other on-campus schools. We are continuing the relationship that the CIT started with the ODNI in 2019. In doing so, Hampton has identified several other areas of possible partnership. Key opportunities include collaborating on establishing K-12 STEM camps at Hampton. Examples of potential activities include creating a Coding Camp, developing Cyber Curriculum for middle school teachers and students, supporting a STEM Careers Exposition, and sponsoring leadership training for STEM students.



The CIT is actively seeking partnerships that develop needed skills and competencies for our staff. By engaging in a relationship with the WWT, we will identify opportunities in 2020 and leverage their innovative capabilities. An additional bonus is that this company engages in partnerships with AWS. We plan to collaborate with WWT to leverage their on-demand technology lab and portfolio of services. Through their thoughtful leadership, we will work and create possibilities around initiatives designed to help Hampton's faculty, students, administrators, and staff in support of a campus-wide digital transformation.

## PEARSON VUE AUTHORIZED TESTING CENTER



The CIT is leading an effort to make this campus an Authorized Testing Center. As the only site in the Hampton area, this Test Center will increase visibility as we expand our footprint by offering testing to the local workforce community. Additionally, we plan to leverage the revenue stream by supporting staff, faculty, student training, and Hampton's technology upgrades. As a Pearson Authorized Test Center, we will work to bolster student career goals by providing opportunities to obtain credentials and certifications.

# *Closing*

My first year leading Hampton's diverse technology teams exemplify John P. Kotter's statement, "transformation is a process, not an event." The Center for Information Technology (CIT) embarked on a journey to realign our organizational structure and align our services to better support our students, faculty, administrators, and staff. We refocused our management team and established the ITAC team, which has become a guiding force for the University. By injecting a more streamlined consensus-driven decision-making process for prioritizing technology projects, our team has become more responsive, efficient, and effective. As such, we are becoming more agile, flexible, approachable, and productive. We are transforming Hampton — one department at a time.

Given our technology role, we have numerous touch-points into every aspect of campus life. In support of the President's vision, we see a Hampton where technology integrates seamlessly with research, academics, and administrative environments and elevates productivity and innovation. With that in mind, we undertook three upgrades designed to position Hampton for future innovation challenges. First, the Banner 8 to Banner 9 upgrade will enable our University to access self-service options that allow users access to the features they need any time, from any device. Next, the Windows 10® platform upgrade provides a safer and more efficient operating system for our users.

With added functionality, we can be more productive. Lastly, and most importantly, the network upgrade will bring Hampton into the 21st Century. Our students, faculty, and researchers cannot maximize the use of digital technologies unless we have the infrastructure to provide the necessary digital capabilities. Our upgraded, scalable network will position the University to take full advantage of partnering, research grants, proposals, and other opportunities in both the near and long term.

Beyond 2020, the CIT will continue to partner with our campus stakeholders and external business, government, and industry entities. In collaboration with our partners, we will leverage the network and our other upgrades to provide THE STANDARD OF EXCELLENCE! We are passionate and re-energized about the possibilities of exploring new technologies. The changes that we made last year in 2019 are the baseline and position us to pursue even more significant opportunities that will benefit all areas of the University.

Warm regards,

Dr. Alissa E. Harrison
Assistant Vice President
Center of Information Technology
Hampton University