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TechCentral Marcus White Annex

# Annual Report 2024

Division of Information Technology Central Connecticut State University

## IT by the Numbers 8.5

**Technical Support Incident Tickets Logged** 



**Service Request Tickets** Processed



**Faculty & Staff Computer Deployments** 





Laptops Loaned to Students



**Remote Computers with Specialized Software** 





**Computerized Classrooms** Upgraded



**Service Satisfaction** Rating

#### Information Technology **Leadership Team**

George F. Claffey Jr. Ed.D. **Chief Information Officer** 

Thomas King Director of Auxiliary Services and Cloud Infrastructure

Amy Kullgren **Director of Client Support Services** 

Sean McNickle Interim Chief Information Security Officer/Deputy CIO

Rob Rak Director of Administrative **Technology Services** 

Tina Rivera Associate Director of IT Strategic Initiatives

Stan Styrczula Director of IT Strategic Initiatives

Terry Thompson Executive Assistant to the CIO

### Center for Teaching & Innovation (CTI)

Steven Minkler Dean, School of Engineering, Science, and Technology

#### **Faculty Senate Information Technology Committee (ITC)** Leadership

Kimberly Meyer Criminology & Criminal Justice Chair

**CCSU IT Annual Report Editor** Tina Rivera

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#### **Cover Image**

Dr. Cheryl Crespi teaches Accounting in a fully-computerized classroom in Vance Academic Center, alongside an Al-generated image of a classroom.

## From the CIO

In the ever-evolving realms of higher education and technology, 2023-2024 has stood out for the rapid adoption and significant impact of Artificial Intelligence (AI) tools. Innovations like Microsoft Co-Pilot, OpenAI's ChatGPT, and Dall-E have grown quickly, a sharp contrast to the slower "uptake" of earlier technologies such as the Internet. This year, Central Connecticut State University established the Presidential Task Force on Artificial Intelligence. This interdisciplinary group is actively developing AI resources and recommendations, including specialized labs and a dedicated AI cluster to support faculty research and experimentation. The task force is also crafting educational programs and updating campus policies to navigate the challenges and opportunities presented by AI. The AI taskforce will be partnering with many existing constituent groups in 2024-2025 and we encourage you to follow updates of our committee at www.ccsu.edu/AI.

The past year saw the completion of several campus initiatives aimed at accommodating more students, enhancing classroom technology, and bolstering faculty research. This year, we deployed the most significant network campus upgrade in the history of the University. From online learning to code blue phones to campus wifi, our network has become the digital backbone of campus. These upgrades ensure that our technology is redundant, scalable, and provides access that faculty, staff, and students need for their educational experience.

Additionally, IT partnered with the Provost's office and Student Success Team in the implementation of Slate for Student Success. This new system leverages the same technology which was implemented in Enrollment Management in 2022-2023. It looks at the student journey from their orientation experience through graduation. From student insights into academic performance, to early alert, to the new "kudos" system, faculty and staff have a single place to assist students with their academic experience and student activities.

There were many additional upgrades completed this year, from dining kiosks, to event credential (badge) creation, to improved audio visual (A/V) in spaces like Alumni Hall. The IT staff have been busy this year making improvements to physical campus and digital systems.

We have a series of exciting upgrades ready to take place in 2024. We are working on two major classroom projects in Cyber Security Hall (Maria Sanford) and the Al Corridor (Vance Academic). In addition, we will implement Ellucian Experience, providing a more modern interface. Lastly, we will be replacing our 2016 Cisco phone system with WebEx Calling.

As we conclude the 2023-2024 academic year, I wish to express deep appreciation to Kimberly Meyer, the outgoing Chair of the Faculty Senate Information Technology Committee. Kimberly's leadership during her tenure—which spanned the challenging period of the COVID pandemic—has been instrumental in enhancing our digital capabilities. She played a pivotal role in enhancing the University's digital infrastructure, including the adoption of innovative tools like Interfolio, the new university website, multiple classroom and lab technology upgrades, and member of the Presidential Taskforce on Al. Her collaborative approach has significantly advanced our university's technology landscape.

George F. Claffey Jr. Ed.D.

### **Slate for Student Success**

#### Success Matters: Replacing the Home-Grown Early Alert System

The Slate team collaborated with functional users to formulate specifications for the Success Matters initiative. Meetings were held with various school advisors to discern their requirements and streamline the process. In addition to the ability to submit a concern, a kudos option was added to provide a method for faculty to give positive reinforcement to students they want to recognize for their efforts. When a Success Maters submission is sent, the student immediately receives an email. If the submission is related to a concern, the email contains resources for assistance. If the submission is related to a kudos, the email contains a certification of recognition. Within Slate, the submission is tracked from submission to completion. allowing the submitter insight into the actions taken to assist the student.

The initial pilot with a specific group of classes and professors, during Winter 2024 was successful. The second phase of implementation included all teaching and administrative faculty and was released in early March (this was deliberate as to not disrupt the processes related to data collection for the census date during the Spring semester). Several in person and virtual training sessions were offered to assist faculty (teaching and administrative) with the process of submitting a Success Matters Concern or Kudos. As of mid-April, 404 Success matter Concerns or Kudos were submitted by faculty representing all four schools/colleges. Work then began on a second dashboard, which would contain select information appropriate to be viewed by other staff on campus (keeping FERPA in mind) to be able to report a Success Matters Concern of Kudos. This will be rolled out to all summer classes as the second phase with a full rollout scheduled for the Fall 2024 classes. This includes bi-weekly training sessions for faculty and staff.

The process includes a workflow that directs concerns to the appropriate offices on campus such as The Learning Center, Student Affairs, or the Registrar's Office, with the ability for specific individuals to add a particular student to their individual workflows, as well as trackable communications between the appropriate office and student.



SUCCESS MATTERS



### **Insights into Academic Standing**

#### Dean's List/President's List

Slate is now used to notify those students who earned recognition for the Dean's List or President's List. The notice includes a letter of congratulations and a printable, signed, personalized certificate.

#### Probation, Dismissal and Dismissal Appeal

Probation, Dismissal and Dismissal Appeal processes and workflows have been completely moved into Slate. The system allows for clear and trackable communications to students regarding their academic status as well as procedures and polices. In addition, the process of submitting an appeal, including providing supporting documentation and routing to the appropriate Dean's office, and appeal decisions (approved/denied) are now done in the system, resulting in the entire process being documented and tracked in a single location.

#### Academic Advising

Work is nearly complete on the Advising worksheet for the school-based center advisors, which documents the information from an advising session, including recommended courses and actions that need to be taken for proper registration and progress toward degree. The form is based on communications with the Professional Advising staff.

#### Communications

Slate is now the mechanism for communicating with current/continuing students. Messages include informational items, points of interest, announcements of available services, (ex. KNACK tutoring services), events (such as the one-stop enrollment/registration events). The Registrar's office is now using Slate to communicate various registration/scheduling information. All communications come with custom headers, clearly identifying the sources of the information (ex. Provost Office or Academic Affairs, etc). Overall, the goal is to create and



maintain a consistent messaging system for our students.

#### Satisfactory Academic Progress (SAP) Appeals

We have moved the process for handling SAP appeals into Slate. This process typically goes along with the dismissal appeals/ probation process as students who are not performing well academically are also typically not making satisfactory progress as defined for receiving federal financial aid. We are creating a form that will parallel the dismissal appeal form where students can submit their narrative along with supporting documentation required to be considered for continuing financial aid. It is hoped that by aligning these two processes in Slate, we may be able to take opportunities to better serve our students by having readily available the documentation that could support both their dismissal appeal and SAP appeal. In addition, our current system, which is separate, is sometimes confusing to students. For example, many students who approved for another semester of probation miss that they must also submit a SAP appeal. We will be piloting the new form in Slate with current students who still have yet to submit their SAP Appeals for Spring 2024. We anticipate the process will be fully tested and ready for full implementation, and sent out in May, for those students who will be required to submit a SAP Appeal for Fall 2024.

### **Presidential Taskforce on Artificial Intelligence**

This year, Central Connecticut State University established a Presidential Taskforce on Artificial Intelligence. The purpose of this taskforce is to address highlevel needs, challenges, opportunities, and threats associated with the rapid expansion of Artificial Intelligence.

We are pleased to announce that the group has made a series of recommendations to the President, which are currently being implemented.

To centralize information, the taskforce has developed a Microsoft Teams site to serve as a comprehensive repository for all AI-related information at the university. This includes faculty articles (both published and inprocess), curated content, and best practices. The site facilitates a bi-directional exchange of information, encouraging university members to contribute articles and review existing materials.

The Charter of the Taskforce was created and adopted, available at www.ccsu.edu/Al.

In collaboration with the Center for Teaching and Innovation, the taskforce initiated a faculty survey to inform a series of workshops scheduled for Fall 2024, which will continue into 2025. These workshops will discuss the utilization of Artificial Intelligence across college campuses.

In concert with the CTI, the taskforce will sponsor an AI-series designed to help all faculty and staff appreciate the growing and transforming world of AI.

#### A New Minor for Fall 2024: The Application of Artificial Intelligence

An interdisciplinary program that will provide students the knowledge and skills necessary to effectively use AI in their respective fields.

#### **18 Credits Total:**

#### 12 Credits of Required Courses:

- LSC 160 Information Exploration in the AI Era 3 Credits
- MIS 202 Introduction to the Application of Artificial Intelligence 3 Credits
- Either MIS 310 Contemporary Business Applications Development I 3 Credits OR CS 113 Introduction to Computer programming - 3 Credits
- Either PHIL 242 Ethical problems in Technology 3 Credits OR PHIL 245 Computer Ethics - 3 Credits

#### 6 Credits of Electives:

- LING 200 Introduction to Linguistics 3 Credits
- LING 230 The Study of Language 3 Credits
- CS 253 Data Structures and Introduction to Algorithms 3 Credits
- BUS 250 Introduction to Business Analytics and Skills 3 Credits
- ROBO 110 Introduction to Robotics and Mechatronics 3 Credits
- ROBO 280 Embedded Systems Design 3 Credits
- MIS 460 Topics in the Application of AI 3 Credits



Furthermore, the taskforce has advised the creation of two styles of specialized lab spaces—one dedicated to research and the other to teaching and learning. This summer, the university will convert several rooms within Vance Academic Center into the Artificial Intelligence Corridor, a new hallmark space on campus. Classrooms 005 and 006 will be enhanced with computers capable of running daily AI operations, featuring tools such as Microsoft Co-Pilot and other common GPT-like functionalities and image generation applications. Classroom 009 will transform into a high-end computational lab to support groundbreaking AI initiatives, including machine learning algorithms, large language models, and extensive data querying. For faculty and staff seeking to advance their research, RVAC 010 will be equipped with servers to support highimpact AI research and scholarship. These servers will manage local data and databases, offering a secure, on-campus AI solution that ensures data privacy and avoids reliance on cloud services.

While the taskforce has been engaged in a variety of legal, operational, student-related, and training activities, it has enthusiastically supported the creation of an interdisciplinary minor in Artificial Intelligence as well as specialized programming within the Computer Science department focused on the computational aspects of AI.

Recognizing the rapidly evolving landscape of the AI industry, at the April 2024 meeting of the Presidential Taskforce on Artificial Intelligence, the taskforce requested the inclusion of representatives from each school. This expansion is aimed at enhancing the breadth of knowledge and perspectives as the university progresses with the implementation of AI-enabled initiatives throughout its academic programs.



### **Introducing the Ellucian Experience**

We are in the process of implementing a significant upgrade to our existing systems, the Ellucian Experience. This comprehensive platform replaces both the CentralPipeline and WebCentral-Banner Web portals, as well as our previous mobile app. This new system will provide a central, secure dashboard for students, faculty, and staff. The Ellucian Experience is versatile, designed to be viewed on any device...computer, smartphone, or tablet.

#### Key Benefits:

- Unified Dashboard: Your critical information in one place—class schedules, grades, financial aid, events, and more.
- Enhanced Security: Our data remains protected, and we simplify login processes.
- Device Agnostic: Whether you're at your desk or on the go, the Ellucian Experience adapts seamlessly.

#### Key Features:

- **Single sign-on:** Access everything you need with one login.
- **Centralized information:** No more switching between screens to find what you're looking for. Ellucian Experience will bring all your important information together in one place.
- Integrated content: Over time, Ellucian Experience will integrate with even more applications, both from Ellucian and other providers. This means you'll have an even more comprehensive view of your information.
- News and Events: All the happenings at Central listed in one place.
- **Resources:** Quick access to campus resources when you need them.

The implementation is underway and expected to be completed by the start of summer. Get ready for a more streamlined and convenient way to access information!



#### **Ellucian Experience**

### **New Apps, Better Service**

#### Our Vehicle Registration System is Getting an Upgrade!

The Information Technology (IT) department, along with Public Safety, decided to upgrade our outdated home-grown vehicle registration system (VRS). Here's what the new system will offer:

- **Cloud-based:** Accessible from anywhere with an Internet connection.
- **Single sign-on:** Use your existing Central login for easy access.
- **Registration for all:** Faculty, staff, and students can register their vehicles.
- Online and in-person registration: Choose the method that best suits you.
- **Temporary parking permits:** Print one for immediate use while waiting for your permanent decal to arrive.

Systems, a company trusted by colleges, universities, and municipalities like Connecticut College, the Connecticut Department of Transportation, and the City of New Britain. We're currently finalizing details and costs with T2 Systems. Benefits, Especially for Students:

- Skip the line: No more waiting at the Card Office, especially during the hectic first few days of the semester.
- **Register from home:** Register your vehicle online at your convenience.
- Print a temporary permit: Get a temporary parking permit right away to park on campus.

We expect the new system to be ready for the Fall 2024 semester, making registration a breeze for everyone!

After a thorough search, we selected T2

#### **Everbridge Member Portal: Keeping You Informed in Case of Emergency**

The Everbridge system lets us quickly send important information to students, faculty, and staff during emergencies, closures, or building evacuations.

We recently upgraded to the Everbridge Member Portal. This means you can now update your contact information directly in the system, instead of using the home-grown application.

#### **Benefits of the Member Portal**

- **Single sign-on:** Use your existing Central login for easy access.
- Real-time updates: Your information is updated immediately, ensuring you receive messages wherever you want them: home phone, mobile phone, work phone, email, text message, and more.

 Always connected: We require at least one contact number in the system.
This Emergency Notification number is automatically added from your student or employee record in the Banner system.

The Everbridge Member Portal keeps you informed and connected in case of emergencies.



#### Central Emergency Alert - Member Portal

This system enables us to provide you with critical information quickly in a variety of situations, such as ca

You will receive time-sensitive messages wherever you specify such as your home, mobile or business phones, email address, text messages wherever you specify such as your home, mobile or business phones, email address, text messages wherever you specify and and unnebers. The Entergency Notification home number is regulated and automatically populated from your student or employee record in the Banner system; if it needs to be updated, students may request an update via the <u>Registrar's Office form</u> and employees may call Human Resources at 860-832-1354.

Single Sign On (SSO)

### **Math Cloud Computing**

Beginning in late 2022, Information Technology began working with Dr. Singh and Mr. DePratti on building a small computer cluster for use in their research in improving algorithms that are used to process large datasets. Our initial discussions were over cost and how to fund the research. When they provided an estimate of the cost it was determined that Information Technology would be able to fund this as a pilot research project. Once funding had been secured the design phase could begin.



In the design discussions with Dr. Singh and Mr. DePratti we focused on a balance between power and cost. To that end it was determined that two clusters would be built. One would be for development and use lower end t2 series machines while the production cluster would use higher end m6i series computers. Each cluster would have four nodes, use Red Hat Linux, have 100 GB of shared storage, access to an S3 bucket, and use a customizable bash script stored in the S3 bucket to install additional packages when the nodes were launched.

Once the specifications had been finalized work began on the clusters. These clusters would be built using Amazon Web Services (AWS) ParallelCluster . This is an AWS opensource management tool that is used to create and manage computer clusters. This tool is offered as both a command line and graphical user interface. For this project the graphic interface was selected. Both clusters were built and tested by Information Technology in about a month's time. A benefit of using ParallelCluster is that it creates the cluster using a yaml configuration file. This allows for the cluster to easily be modified, deleted, or recreated. After the clusters had been built, access was granted to Mr. DePratti for acceptance testing and training. During this time, he modified the installation script in the S3 bucket to add additional packages to the nodes upon launch. He also began learning how to use Slurm which is the software used for submitting and managing jobs on the cluster.

At the conclusion of the acceptance testing Mr. DePratti began using the development cluster for their research. The initial results of this work were presented by Dr. Singh and Mr. Depratti at the 12/1/23 Mathematics Colloquium, titled "The journey to improve an R package for Ordinal Regression". After the colloquium Mr. DePratti continued his testing of the algorithms and noticed some unexpected variations. He and Dr. Singh theorize this may be a result of using cloudbased services for this type of research. As cloud based virtual machines are usually a shared resource it is thought that the context switching between users may be causing this variation. An initial test to see if this was the issue was done by running the code against the production cluster. When performing the trials on the production cluster there was much less variation in the results. An

additional test of this theory will be done on a third cluster that will be built using "bare metal" machines. These are virtual machines that are not shared with other users. These were not initially used as they cost approximately 10x as much as a shared machine. After this cluster is built, we hope to answer the question if the virtualization and shared resources are causing the variations.

As the development cluster has been used for most of the research the cost to date have been minimal. During the seven months that the cluster has been used it has only incurred a cost of \$330. This is because nodes are terminated, and the head of the cluster is powered off when not in use. The collaboration between Information Technology, Mr. DePratti, and Dr. Singh has been very fruitful. Information Technology looks forward to continuing to work the Math department and other academic areas on campus that need cloud resources for both classroom instruction and research.



"The collaboration we had with Information Technology made a significant impact on our research. The goal of the research was to improve the performance of our algorithm and its ability to process large amounts of data in a shorter amount of time. The new environment allowed us to test larger amounts of data. Also, the cluster architecture allowed us to test multiple test cases in parallel, i.e. a cycle that would take 4 hours to test would complete in less than an hour.

More importantly, it explored a very important issue surrounding research performed in a cloud – can research in which runtime measurement is a core deliverable be successfully tested in a cloud environment? Although we haven't completely answered this question, we hope our continued collaboration will, and will provide the answer to other researchers."

– Roland DePratti, Student

### **Phone System Upgrade to Cisco WebEx Calling**

Since 2016, our campus has relied on the Cisco's "Unified Communications" to provide its phone system. On campus, phone service ranges from phones at faculty and staff desks, to the admissions and financial aid call center, to code-blue phones around campus. The phone system technology, six physical and virtual servers, are now approaching the end of its life.

Over the course of fiscal year 2024, the IT department in concert with the System Office and other CSCU schools performed an evaluation of potential replacements, focusing on Microsoft Teams Calling and Cisco Webex Calling. Our assessment was grounded in several critical considerations:

- Device Compatibility: Ensuring the new system works with our existing infrastructure, including analog devices such as blue emergency phones and elevators.
- **Emergency Services:** Maintaining reliable functionality for 911 calls, which is vital for campus safety.
- **System Integration:** Achieving seamless integration with our current emergency notification systems.
- Softphone Capability: Ability to use software-based phones on computers in addition to traditional phones.
- Continued Emergency Alert Capability: We looked for a system which could provide our Alertus (emergency alert) integration, panic-button functionality, and be used in emergency situations
- **Cost Efficiency:** Considering the overall financial impact of the new system.

Following this thorough evaluation, Cisco Webex Calling was selected as the optimal solution for our needs. It's important to note that while Cisco brands the system as "WebEx Calling," it is more of a marketing term referring to moving the physical servers which live on campus to a web-based environment hosted by Cisco.

#### Implementation and Expectations

The upgrade is scheduled to start in Spring 2024 and we aim to complete it by early summer. The new platform will be compatible with your current phone systems and will also support the use of softphones (either software installed on your university computer or smartphone), providing greater versatility. We will offer detailed training for all staff to ensure smooth transition and effective use of the new system.

The IT department is enthusiastic about bringing this upgrade to our university community. We anticipate that the new Cisco Webex Calling system will not only enhance our communication capabilities and agility in making changes but also continue to support our mission of providing a safe and efficient campus environment. Additionally, the new system saves approximately \$30,000 per year as compared to the phone system we run today. We look forward to your support and cooperation as we implement this significant improvement.



### **An Update on the Modern Desktop**



What Is a Modern Desktop?

Information Technology strives to balance security with usability. The modern desktop is built on Microsoft Windows 11 or Apple macOS (operating system) Sonoma, Microsoft Office 365 and Defender. The modern desktop will enable IT to improve enforcement of security policies and installation of critical software updates while allowing you to work seamlessly. Both Windows 11 and Sonoma will use Microsoft Defender for Endpoint; an EDR (Endpoint Detection and Response) solution as well as Defender AV (anti virus) for malware protection. The Modern Desktop ensures compliance without compromising productivity.

#### Why are doing this?

When issues arise, having an up-to-date system ensures timely assistance from Microsoft and Apple. Support for Windows 10 will end in October of 2025. Major versions of the macOS are released once a year and are usually maintained for three years. Running an outdated OS means limited or no technical support. Unsupported operating systems are prone to security vulnerabilities. This means no more patches, security fixes, or technical assistance from Microsoft and Apple. With nearly 5,000 computers on campus, it's vital that we remain on supported operating systems. Behind the scenes, there are expanded toolsets IT is implementing to better manage our growing computer base.

### Where Are We Now and Where Do We Go From Here?

**Past:** In the heart of our technology hub, TechCentral, we focused on piloting the new operating systems. Windows 11 was piloted in TechCentral, MWA102 and RVAC006; giving faculty the opportunity to explore the new OS's features, performance, and compatibility. Sonoma was also piloted in TechCentral. 30 laptops were also deployed for Windows 11 testing within IT. Over the past year, we focused replacing computers that do not meet the minimum requirements for the new operating systems.

**Present:** IT is already at work rebuilding software installation packages for the new operating systems which includes application compatibility testing.

**Future:** Our classrooms are poised for these new operating systems. Later this summer the majority of them will be configured with Windows 11 or Sonoma; unlocking productivity, security, and a fresh user experience. One major change is that authentication will use your Central email credentials rather than BlueNet account. Later this summer, new computer installations for faculty and staff will be configured with Windows 11 or Sonoma. We'll have more details on in place upgrades for existing computers in the fall.

#### **Come Test Drive at TechCentral**

Curious? Swing by TechCentral to test-drive Windows 11 and/or Sonoma. Our IT staff are on hand to guide you through the revamped Start menu and more.

### **Center for Teaching and Innovation**

The Center for Teaching and Innovation (CTI) at Central is committed to enhancing the integration of technology within the educational framework, supporting innovative learning opportunities and highimpact practices. Located in the Elihu Burritt Library, the CTI provides a collaborative environment for faculty to explore and refine pedagogical techniques using educational technology.

Throughout the year, CTI has launched several pilot projects aimed at improving pedagogy through technology. Notably, the update to the Blackboard Learning Management System (LMS), dubbed Blackboard Ultra, offers more flexible, inclusive, and insightful online course content design. This initiative began in Fall 2023 and continues to attract faculty interest. Another significant tool, a pilot for FeedBackFruits, was introduced in Spring 2024 to enhance student engagement in online environments by making content more interactive and collaborative.

The CTI also ensures that the Blackboard LMS and integrated third-party tools remain up-todate, utilizing the latest integration methods such as Learning Tools Interoperability (LTI) to provide a seamless and secure user experience. This has involved converting nine tools to the new LTI protocol starting in Summer 2023, to prevent any disruptions to the teaching and learning processes. In addition to technological support, the CTI offers a variety of workshops and professional development opportunities focusing on educational technology and pedagogical strategies. These workshops are designed to meet the needs of faculty throughout the academic year, with topics ranging from getting started with Blackboard to more

advanced tools and strategies. The workshops are available both online and in-person, catering to the different scheduling needs of the faculty. Workshop schedule can be found at www.ccsu.edu/cti.

Furthermore, the CTI collaborates on a range of educational technology initiatives beyond Blackboard. Tools such as GoReact, Honorlock, and Kaltura are supported, enhancing multimedia capabilities and online proctoring. Special programs like the \$300 mini-grant for aligning assignments with rubrics and community-engaged research introductions highlight the CTI's role in fostering innovative educational practices and community connections. Workshops can be found at www.ccsu.edu/cti.

Overall, the CTI's efforts are crucial in adapting CCSU's educational landscape to the evolving demands of digital pedagogy, ensuring that the university remains at the forefront of technological integration in higher education.



### **Meet the IT Staff**



### **On Our Radar for 2025**



www.ccsu.edu/it

