

Division of Information Technology

Annual Report

July 2022 – June 2023



06/30/2023

July 2022 through June 2023

KEY METRICS

Internet Connection Uptime

- 100%

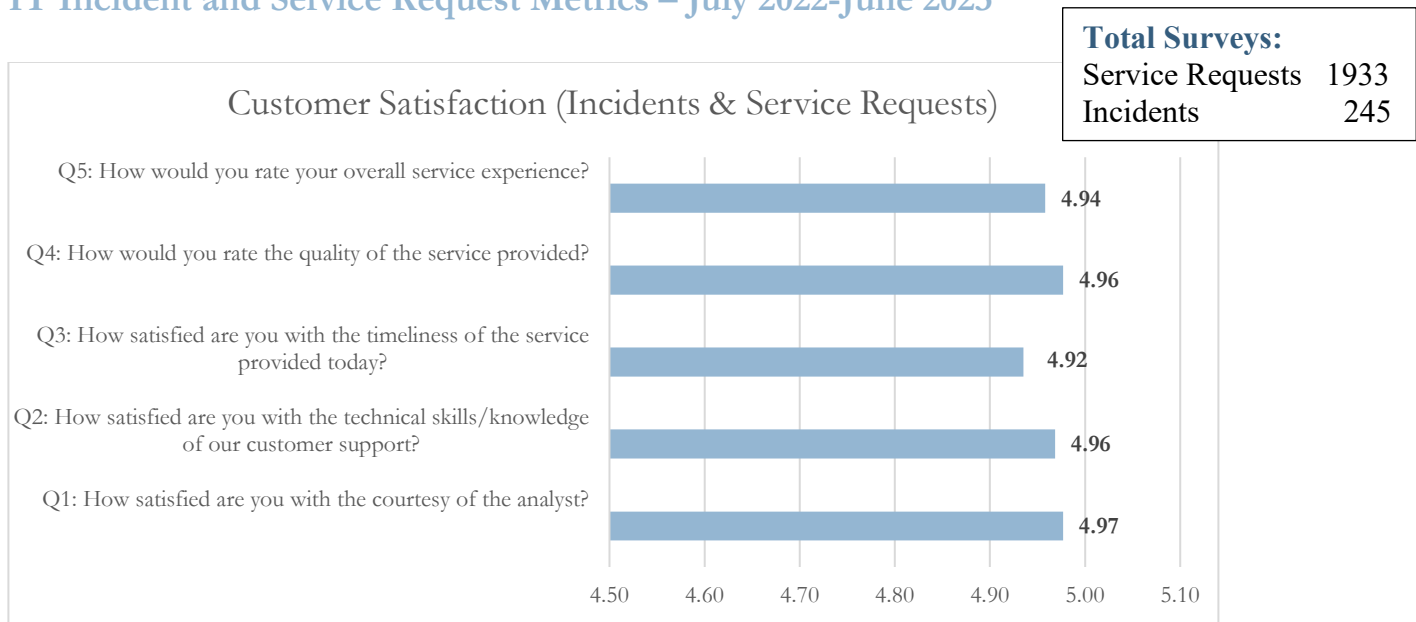
Core Network Uptime

- 99.43%
 - Various short power outages or single equipment failures.
 - 04/2023: Loop in Hunter Library caused a 2-hour instability in the campus network.

Learning Tools Uptime

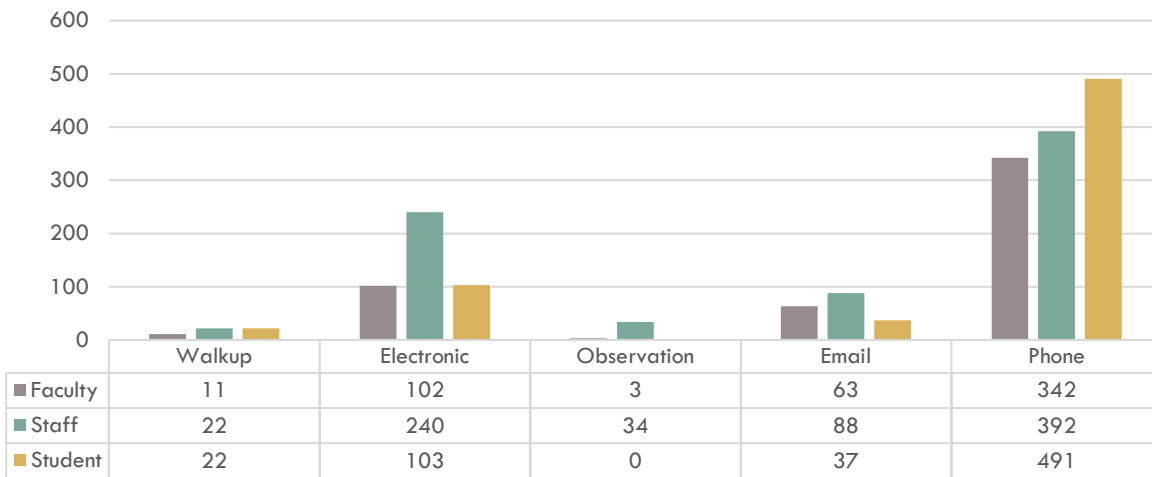
- 99.99% - Canvas
- 99.98% - Panopto
- 99.99% - PollEverywhere
- 99.99% - Qualtrics

IT Incident and Service Request Metrics – July 2022-June 2023

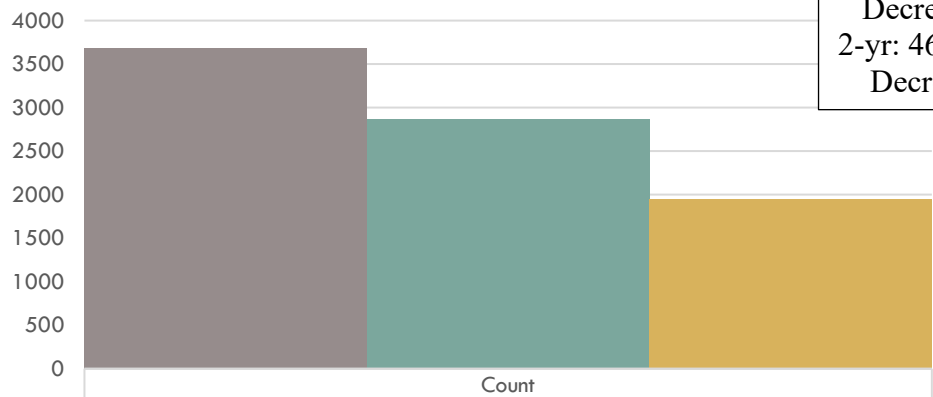


Scale of 1 to 5 (5 = best)

Incidents by Client Status and Contact Source

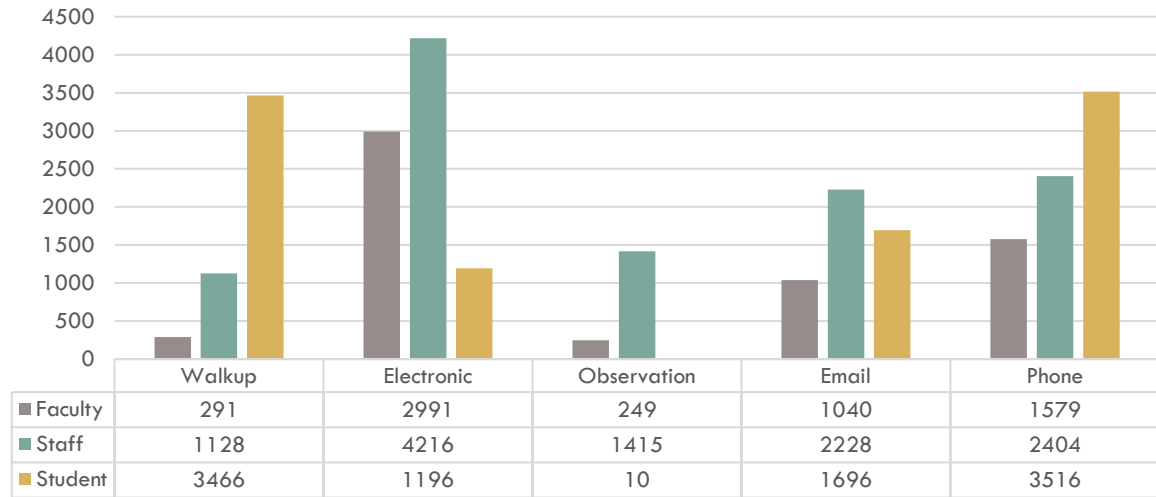


Incident Trend

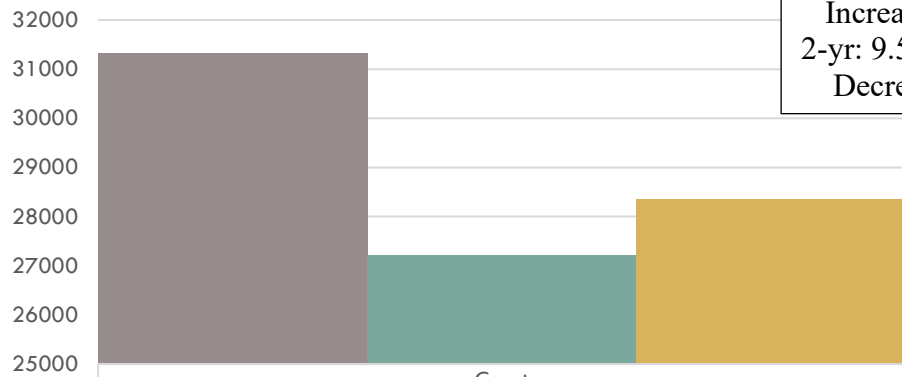


	Count
July 2020- June 2021 Total	3680
July 2021- June 2022 Total	2874
July 2022- June 2023 Total	1952

Service Requests by Client Status and Contact Source



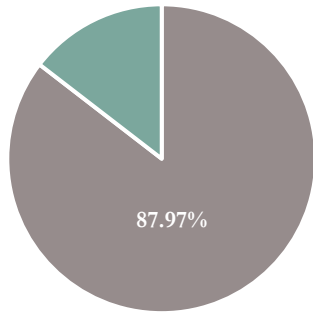
Service Request Trend



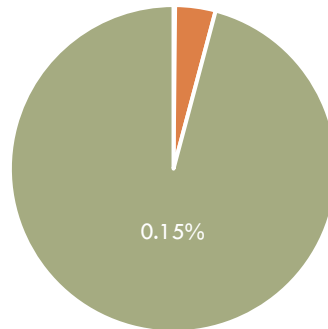
1-yr: 4.14% Increase
2-yr: 9.50% Decrease

	Count
July 2020 - June 2021 Total	31322
July 2021 - June 2022 Total	27219
July 2022- June 2023 Total	28347

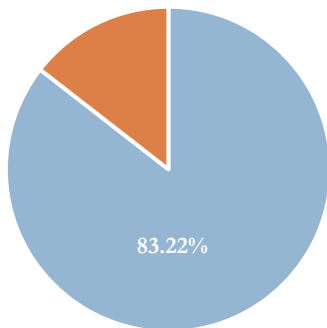
First Level Resolution Rate Incident



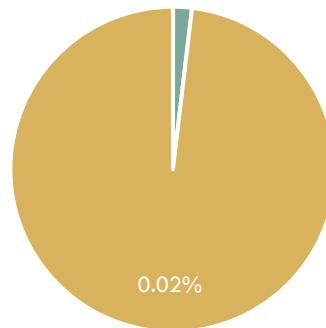
Incident Reopen Rate



First Level Resolution Rate Service Request



Service Request Reopen Rate



Significant Accomplishments

Overall IT Division

- **IT 2022-2023 Fiscal Year Objectives.** Each year, IT creates its annual “1-Pager,” listing the key objectives and projects for the division. During the year, IT measures its progress and success against completion of these objectives, scoring each item quarterly. For the 2022-2023 fiscal year, IT scored a 173 out of a potential maximum score of 200, resulting in a “B.”
- **Resources on Projects.** The IT division continues an annual objective for time spent on project activities and efforts. For the fiscal year ending June 2023, the objective was to spend a minimum of 30% of available work hours on project work. This goal was not met, with the final average of 23%. This was mainly attributed to staffing shortages due to turnover.
- **Board of Trustees Updates on Technology and Cybersecurity Risk.** For the ninth straight year, IT presented updates on Technology and Cybersecurity Risk to the Board of Trustees. The updates were well received and demonstrated that we continued to make significant progress and provide value to WCU’s goals, operations, instructional delivery, cybersecurity, and the student experience.
- **Division Reorganization.** With the retirement of William Frady, Director of Instructional Technology and Desktop Services (ITDS), the Division significantly reorganized, affecting twenty-nine IT staff members:
 - Embedded College Support and Video Services (ECSVS), and the Instructional and AV team (ITAV) moved to the **Academic Engagement and IT Governance** department (AEITG), under Associate CIO and Director Annette Littrell. The efforts of these teams align with the academic engagement mission of AEITG and support the natural interaction between Ed Tech and the Instructional/AV team.
 - The IT Customer Experience and Total Quality (TQM) position, while continuing to have an IT-wide focus on quality improvement, moved to **Applications & Systems**, reporting to Associate CIO and Director Dan Berk. With project metrics and quality as a key upcoming TQM focus, this will provide more direct exposure to a department with significant project efforts.
 - Sue Grider, IT Project Intake Analyst, moved into the **Project Management Office (PMO)**, reporting to Director Jenn Lohse. This brings the project discovery/intake process into the PMO and will provide additional project manager interaction and consultation in earlier stages.
 - Neil Calvert, who has been splitting efforts between Vendor Management (within the IT Administration department) and AEITG, moved full-time to the department of **IT Administration** in Vendor Management, reporting to Director Tabatha Springer. Enhancing our vendor management maturity is a key goal for IT, and this will enable additional effort on our process developments.
 - Colby Dietz also moved to Vendor Management, focusing on developing and improving our software management and software inventory tracking processes.
 - A new department, **IT Client Support Services**, reporting to new Director Kenny Chapman, consists of the IT Help Desk, Technology Commons, and Endpoint Services.

Academic Engagement and IT Governance (AEITG)

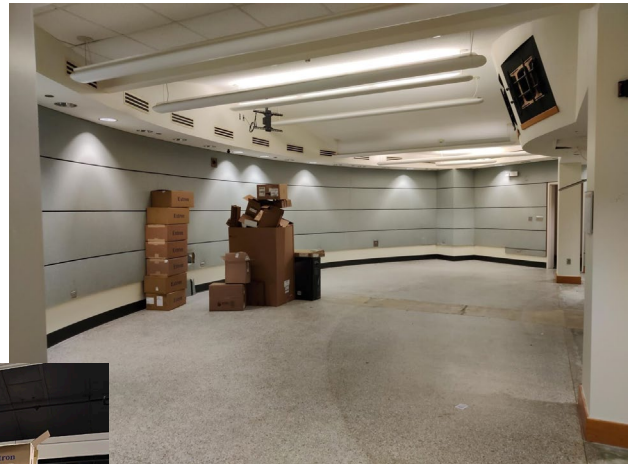
- **Educational Technologies**
 - Throughout the months of February and March, the team participated in virtual and on-site benchmarking visits with two aspirational peer schools, the University of North Carolina at Charlotte and the Georgia Institute of Technology. The staff prepared and presented findings to the Information Technology Leadership Council.
 - On March 27, 2023, **Dr. Jonathan Wade** completed all the requirements necessary to be certified by Instructure as a Canvas Higher Education Certified Educator. Dr. Wade also participated in the UNC

- Summer work has begun (*Belk 406 shown right*). The ITAV team has completed partial room upgrades and has started our first cycle of full-room classroom replacements. These sixteen spaces will include new instructor carts, chosen in coordination with the campus Architect. The processes and plans developed over the last academic year will be put to good use as the team determines next year's refreshes.



- The ITAV team has seven pending AV Design requests for FY23/24, along with continued planning for the Moore Renovation and the potential renovations at the Biltmore Park campus. The team will also be reviewing our AV design standards for classrooms, conference rooms, and other spaces. Our goals will be to assess new equipment to leverage, while also keeping the designs cost-effective, adaptable, and usable by our clients.

- For the first time, the ITAV team now is co-located with their inventory and vehicles into the Camp space. The team is thankful to have offices directly adjacent to their storage and sufficient parking for daily transport of inventory and dispatch for support. This creates much more efficient use of time and facilitates greater team communication.



- **Embedded College Support and Video Services (ECSVS)**

- This past year, the team welcomed **Robin Hitch** from the Hunter Library IT staff into our ranks. Robin has been a critical part of the Library's success for many years and continues to provide excellent support for the Library's technology needs. With this new realignment of her position, the Division of IT will be able to better serve the needs of Library, from simple troubleshooting to strategic decisions. Robin has been working within the **Hunter Library**, refreshing a number of public area computers including two new eSports computers, three updated virtual reality (VR) computers in the VR room, six computers in the Scholar Studio, and six additional Service Desk computers. She set up laptops and onboarded six new faculty/staff and replaced five faculty/staff employee laptops. In an effort to bolster VR offerings, the library purchased the newest edition of 3D Organon, which Robin set up and installed on the VR machines. It includes a new real time sectioning tool, new virtual environments, new microscopic models (such as multipolar neuron, eukaryotic cell

and eye model), 3D Organon Medverse, new VR search tool and refactored animations among others. These offerings are becoming more and more popular, allowing students to practice critical skills within their disciplines.

- **Frank Hachadurian** (Embedded College Support, Health & Human Sciences) and **Ed Ledford** (Help Desk Manager) again contributed to the success of the annual **Rooted in the Mountains Symposium**. This national interdisciplinary forum brings ethnography, literature, art, music and native and western science together, highlighted by WCU’s Culturally Based Native Health Programs, a collaboration between the Eastern Band of Cherokee Indians and WCU’s College of Health and Human Sciences. Additionally, Frank worked in conjunction with the WCU Registrar's Office staff for multiple years, refining the automated name reading during commencement, using *Marching Order* software. Frank also worked as part of the video streaming team, allowing parents and loved ones far away to view WCU's different graduation ceremonies.
- In the fall, **Becca Hauge** (Embedded College Support, Health & Human Sciences) assisted Nursing faculty at the WCU Biltmore Park campus with their DNP program accreditation site visit, access, and materials, which resulted in a successful visit. We are thankful to Becca and our other Embedded staff that work with our campus partners to help them accomplish their goals. The HHS staff also assisted Lisa Lefler from Culturally Based Native Health Programs, Dr. Tom Belt from the Eastern Band of Cherokee Indians, and Dr. Tom Hatley from the People and Planet Fund present via Zoom on behalf of the Smithsonian Institute for a small conference on Living Waters from the University of Warsaw in Poland. Additionally, the team helped with the expansion of the HHS Speech and Hearing clinic, allowing larger class, student, and parent observations, and expanding the camera system to Nursing and EMC classrooms, enhancing instruction.
- **Adam Chandler** (Embedded College Support, Arts & Sciences) has been working with many in his college as well as collaborating across campus to explore generative AI and its impact on academia. We are thankful for his work in this space, and for the opportunity to have active IT staff engaging in meaningful dialogue to keep Western Carolina University ethical, safe, and relevant to our current and future students. **Adam and Jonathan Wade** (Educational Technologies Team) developed a presentation for the Summer Institute of Teaching and Learning for WCU faculty.
- **AJ Morris** is the new IT Embedded Support staff for WCU Programs in Asheville. Now a part of the Division of IT, AJ has started integrating direct IT support from the main campus into Biltmore Park. After working with the ITAV for several years, AJ is now finding new IT-approved solutions to regular issues with existing technologies and workflows, helping faculty, staff and students better use available resources. He has also been a part of the preliminary planning discussions for the WCU Biltmore Park campus expansion regarding new A/V technologies for classrooms and conference rooms.

Applications and Systems (A&S)

- **Application Services**

- WCU continues to lead in the UNC system in our implementation of Banner 9. Only two projects remain before the multi-year migration effort completes.
- A three-year strategic roadmap was created to guide technical work for all current major platforms, to ensure key processes are being developed/updated, and to review older technology for replacement opportunities.
- Efforts continue to mature our standards and practices in the ERP management space. This work will also be leveraged to create similar improvements in the SharePoint and .NET application development areas. The team is initially focusing on:
 - maturing our ERP management processes (both development and production environments)
 - enhancing standards and improving our code review practices
 - formalizing IT and functional testing processes
 - improving our documentation of system integrations
 - enhancing our sequencing/prioritization of work requests with each functional area
- Additionally, the team is collaborating with the UNC System Office to further develop their operational processes, including emergency outage management and communications, as well as change control.

- We are the first Banner-hosted school to complete the migration from COBOL to Java jobs.
- The team completed migrating Banner databases to an Exadata environment.
- Additionally, the team implemented a standard Banner release management process, incorporating significant process improvements, and a new Operational Reporting Database environment, which is expected to improve overall ERP performance by moving reports and queries off of the transactional Banner environment.
- We are also working with the System Office and Deloitte on the ERP Assessment Effort regarding a replacement for Banner HR and Finance modules and associated applications and integrations.

- **Data Center Services**
 - Data backup: moving from three-month to twelve-month data retention.
 - Implementing Wasabi cloud for three-month data retention
 - Implementing twelve-month archive of our full backups in Azure Archive storage
 - Reviewing a replacement for our enterprise backup system
 - Data center planned outages:
 - Completed our July outage
 - Planning for our next outage:
 - Apply the latest update to several infrastructure applications and platforms
 - Continue testing our “Disaster Recovery Run Document,” listing out all tasks necessary to rebuild the data center in the case of a catastrophic event
 - Ongoing work with VMware on NSX pricing to improve security posture.
 - Continuing work with the Help Desk to identify Shift-left opportunities around data recovery as well as email and calendaring-related tickets.
 - Work remains on retiring older systems (Windows 2012 R2, RHEL 7, SQL 2014).
 - Security and risk management areas:
 - Contracted with a vendor (Valimail) to assist with implementation of DMARC (Domain-based Message Authentication, Reporting & Conformance) for our email system
 - Continuing integration of the Operational Security role into the Data Center Services Team
 - Continuing work with Elastic and a third-party contractor to develop an architecture recommendation due to recent changes in the new version, as well as to improve performance
 - Working to incorporate logs for both Microsoft Defender for Identity and Windows Servers into Elastic
 - Reviewing work and requirements around Cloud Access Security Broker (CASB) solutions and Data Loss Prevention (DLP) expansion in our M365 environment
 - Implementing email improvements to reduce phishing attempts:
 - Integrating MS Defender for Cloud Apps with Defender for Endpoint allowing us to block risky or malicious cloud applications
 - Identified several Attack Surface Reduction Rules in MS Defender
 - Migrating the virtual server environment to NSX to begin microsegmentation activities.
 - Disaster Recovery:
 - Building out some infrastructure in our HHS data center to expand capacity in the event we were reduced to a single site
 - Updated the IT Disaster Recovery Plan, and created tactical recovery documentation for several scenarios
 - Migrated an additional system to an improved redundant technology
 - Data Center Currency:
 - Replacing our existing Server Network equipment in HHS with new equipment while also migrating to the new management tools
 - Worked with the College of Business and Athletics to replace four servers they purchased, which had reached end-of-life by the vendor
 - Worked with the NC National Guard Joint Cyber Task Force to conduct an assessment of our systems, and scheduled a penetration test for next year

- **Endpoint Management**
 - Continued our patching schedule of Windows and macOS operating systems, applications, and security policies.
 - Continued adding to, and updating, our application inventory so that university faculty and staff have quick access to software-approved and IT-vetted applications.
 - Continued discussions with key vendors to best leverage our investment in their tools, including VMware and Microsoft, as well as Apple and Jamf administrators in the UNC system. These meetings help us plan for projects and future needs, further leverage these tools, facilitate understanding of upcoming changes, and work on technical issues.
 - Began using new Intel power management functions, allowing for advanced power management of endpoints, negating the need for visiting classrooms.
 - Continued work on Zero Touch endpoint delivery, allowing for a machine to be directly delivered to a stakeholder, self-configuring at first sign-in.
 - Cleaned up old devices in Workspace One to ensure a more accurate device count.
 - Currently evaluating plans to redesign VCAT “3.0” to include new parent images, restructured architecture, and possible cloud disaster recovery. Also purchased new hardware for our VDI (VCAT) environment to replace aging equipment, including a new server chassis and graphics cards. Working with VMware to implement Carbon Black in our VDI (VCAT) environment for added security.
 - Working with the security office to implement a new tool to enforce multifactor authentication at an elevated administrator user access control prompt.
 - Tested hybrid-joining endpoints to both Azure and Active Directory for better device management capabilities and compliance.
 - Continuing to update our application inventory; added Adobe Creative Cloud.
 - Filled a long-standing vacancy on the team with a VCAT system administrator.
 - Created a new project for Endpoint Project Phase 4, which includes plans to migrate our Apple devices into our Workspace One environment.

- **CATalytics (data warehouse and business intelligence).** Work continues, helping the campus move towards more data-informed decision making by improving our data and analytics capabilities across multiple divisions.
 - CATalytics user experience:
 - Developed use case/requirements document to guide development of an enhanced CATalytics 2.0 user experience
 - Completed proof-of-concept for a dashboard explorer tool, and reviewed with OIPE and Student Affairs Leadership Council
 - Launched a new CATalytics portal
 - Built a new Dashboard Explorer tool with improved keyword searching and browsing capability
 - Stakeholder engagement:
 - Due to strong statements of support from the Provost on the use of data, the team received numerous meeting requests from college leadership, including:
 - College of Education & Allied Professions
 - College of Health and Human Sciences
 - College of Engineering
 - College of Business
 - Student Affairs leadership
 - Graduate School
 - Associate Provost’s office requested our participation in the June Department Heads’ workshop
 - Dashboard development:
 - Achieved final validation and sign-off on Admissions Funnel dashboard, replacing multiple aged reports and queries, and consolidating funnel data into a single source of truth.
 - Published two funding model dashboards to provide additional visibility into the impacts of the new System Office funding model:

- First dashboard includes all six performance metrics, actual performance relative to baselines and goals, and detailed info about the metrics, so campus leadership can more deeply understand how they are calculated as well as actionable insights.
- Second dashboard covers student credit hour production and funding implications to help university leaders understand individual funding outcomes for colleges, departments, subjects, and courses; provides ability to look at SCH and funding outcomes by CIP, college, department, course prefix, course, campus, credit type, and delivery method; includes top and bottom categories, longitudinal views, a view built for a dean/college, and a summary.
- Continued work included creating a supplemental dashboard with information about all the performance elements, how they are derived, goals compared with actual performance, and how they equate to funding impacts, through the various weighting formulas.
- Developed proof-of-concept to illustrate program usage and impact, using Project CARE as a test case. This dashboard shows student demographics served by the program, and the program’s impact on key metrics such as student retention, GPA, etc. Presented to Student Affairs Leadership Council to gauge interest in developing additional program impact dashboards.
- Published a dashboard (to all employees) with faculty, staff, and student views, showing diversity elements including race/ethnicity, gender, veteran status, disability status, and age. More detailed drill-down views (by division, college, and/or department) for select users have been finalized and presented to Provost's Council. Finishing final steps with HR and Legal around procedures for documentation and release of sensitive/protected data.
- Published the Program Retention and Graduation dashboard. Rolled out to Provost Council and associate deans. Strong top-down buy-in for this dashboard should really drive additional academic engagement.
- Completed revisions/maintenance on a number of dashboards including Enrollment PIT, Admissions, Instructional Resource Planning, and Student Success.
- Development continues on a technology asset management dashboard that will give university leaders and employees access to information about IT devices assigned to them and/or their divisions/departments.
- Data warehouse development:
 - Legacy data warehouse decommissioned, and a new standalone development environment was setup for OIPE development. A weekly developers’ meeting has been established to advance consistent report development across the two groups.
 - Deployed new data sets for:
 - Enrollment Funding Model, combining WCU data with Delaware Cost Study data to be used in the future college operations dashboard, in addition to a new funding model explorer tool.
 - Enrollment Projection Model, developed in conjunction with OIPE, operationalizes the manual admissions data set pull previously performed manually for the Fall 2022 cycle.
 - SACSCOC 8.1 (Student Achievement) Data Set, developed in conjunction with OIPE, will automate reporting of several student achievement metrics for SACSCOC compliance.
 - IPEDS, currently being used as a component of the Enrollment Funding Model’s performance metrics.
 - Program Retention & Graduation Data Model
 - Student Group Rosters (additional Project CARE participants, and CatCamp Counselors).
 - Created a credential exception report for the SACSCOC faculty roster process and work continues on the “Other Qualifications & Comments” process.

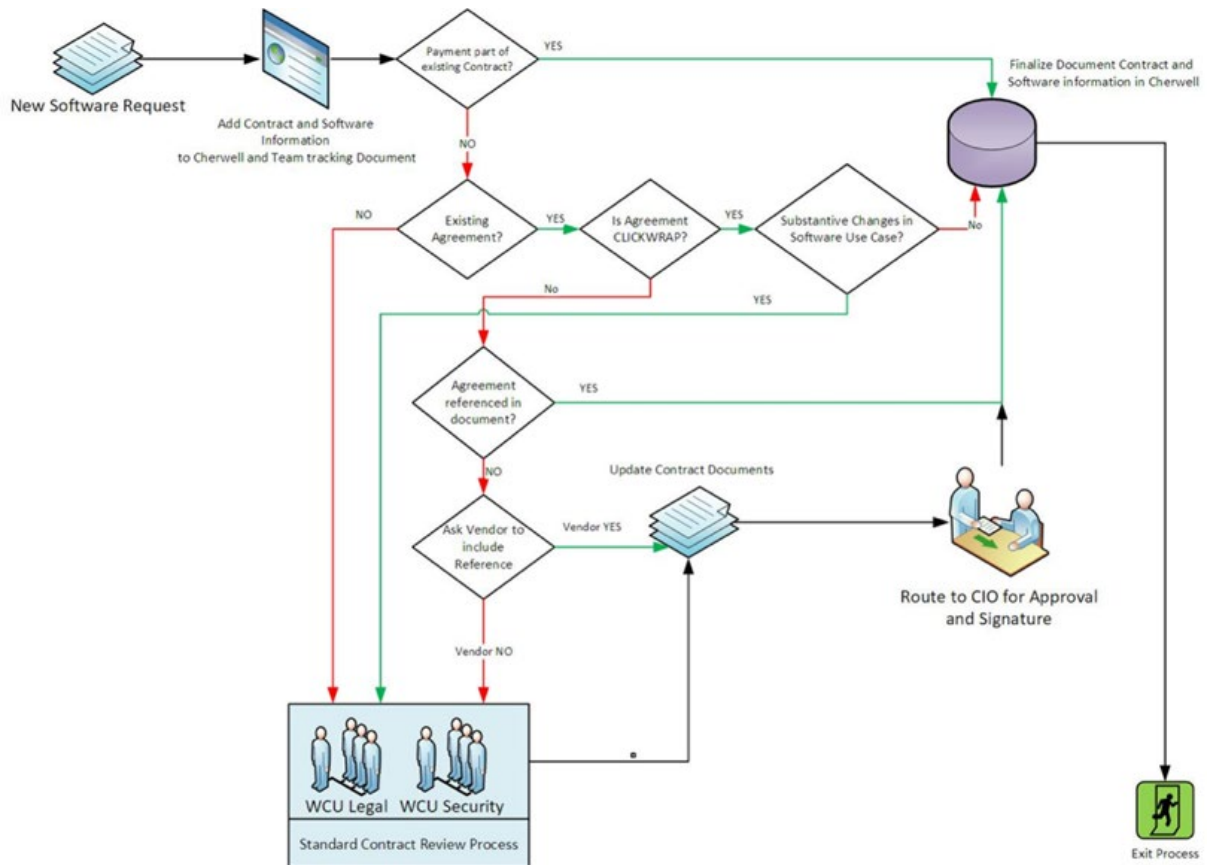
- Data process documentation continues, utilizing the new LucidChart license for data processing diagrams and DataCookbook/iDataHub for data lineage.
- Published improved monitoring tool for the CATalytics program: permissions management, usage tracking, and metadata tag management.
- Technology asset management
- Project Kittyhawk/Re-Up
- Continued to refine the SACSCOC faculty roster dataset/dashboard for use during the faculty credential review process.
- OIPE Partnership:
 - Continued our efforts sponsoring a joint IT/OIPE Data and Analytics team, enabling the sharing of resources, increasing exposure of available data, and laying the groundwork for future campus-wide data governance.
 - Continued identifying and working data quality issues with both OIPE and functional areas.
 - Continued creating a first-ever data dictionary/business glossary of key definitions and terms.
 - Continued helping OIPE operationalize their work with the System Office Student Datamart, reducing their manual data operation efforts.
 - Developed capabilities for OIPE to download National Student Clearinghouse data into the data warehouse.
 - Set up the iDataHub tool, a component of Data Cookbook, to automate documentation of data warehouse operations using metadata and, eventually, tracking and reporting on data warehouse quality rules.
 - Completed data model for CATalytics published dashboard inventory, which will be incorporated in a new dashboard explorer tool and version 2.0 of the CATalytics home page.
- **Total Quality Management**
 - Metrics
 - Current: IT Service Management, Change Management
 - Documented/revised/created new service management related metrics.
 - Requirements provided to CATalytics team to source data and create Tableau-based dashboards.
 - New: Customer satisfaction, Knowledge Base utilization
 - Started analysis of available data
 - Kicked off a Tableau-based replacement project to provide automated calculations, notifications, and data analysis capabilities, eliminating the need for manual creation of metrics reports.
 - New metrics being developed around customer satisfaction and knowledge base usage.
 - Root Cause
 - Creating an enhanced, more inclusive process and artifacts for relaunch next quarter.
 - Developed a new process and tool to enhance our root cause analysis capabilities and scope, with launch scheduled for this summer.
 - Quality Council
 - Created charter and guiding principles for creating an employee-based Quality Council, with launch scheduled for this summer.
 - Portal/Communication hub
 - Developed a SharePoint-based home portal to help communicate and drive quality awareness across IT, with launch scheduled for this summer.

Information Security Office (ISO)

- **Privacy Threshold Analysis.** The Security Office started working with the Project Management Office to perform a privacy threshold analysis on all new projects. The analysis determines if a full privacy impact assessment will be required, and asks if a) any new personal identifiable information (PII) is being collected or shared, and b) whether or not previously collected PII is being used in a different way.
- **New version of ISO 27002 Security Framework.** With the ISO 27002 for 2022 standards available, WCU will begin using that framework immediately, migrating existing policies and standards from the 2013 version, and addressing any gaps.
- **Privacy Impact Assessments.** The Security Office performed its first Privacy Impact Assessment (PIA) exercise. This is a new process and will likely be adjusted as we gain experience with it. The PIA identifies risks in ten privacy and security categories, and scores them based on probability and impact. If the risks are deemed impactful enough to merit mitigation, then they will be reviewed by the Information Security and Privacy Committee and placed on the IT Risk Register to follow progress towards addressing the risk.
- **Identity Theft Prevention Program Training.** About 575 employees were recently enrolled in training for WCU's Identity Theft Prevention Program. This program is required by the FTC Red Flags Rule (Detection, Prevention, and Mitigation of Identity Theft) and the FTC Safeguards Rule related to the Gramm-Leach-Bliley Act (Standards for Safeguarding Customer Information).
- **Distributed IT Standard.** Based on the requirements of UNC Policy 1400.1, a new Information Security Standard was created to address "Distributed IT." This standard requires administrators of applications hosting red or orange data to re-certify access twice per year, rather than once. It also requires employees that are responsible for configuring endpoints or managing servers to follow all University security policies and standards and to participate in the IT Liaisons Committee.
- **Phishing Simulation.** A phishing simulation email was sent out to employees in April. This simulation was a good example of how social engineering can get the most cautious users to make a mistake. The message said that someone had posted a picture of them on Facebook, and even though most people do not use their work email for Facebook (or at least they shouldn't), we still had over two hundred clickers. This was over twice the click-rate of most all of our other phishing simulations. These results demonstrate the need to continue training our users and testing them periodically.

IT Administration

- Software Acquisition Process revision.** Software requests are now being entered into Cherwell ticketing system to track progress and provide centralized documentation. The Vendor Management team works through the tickets using the new process guidelines shown:



- New additions to team.** Reclassification of an IT Strategic Sourcing position to IT Vendor Management Analyst was successful; Brent Russ joined the team, serving as IT Buyer for all IT-related hardware, software, and services. Additionally, Colby Deitz, Software & Systems Specialist, transferred to IT Administration to manage software license and renewals.
- Policy 62 Software requests** are now being entered into Cherwell ticketing system through this link, <http://go.wcu.edu/itsoftwarereview>. The form gathers information needed to evaluate the request and replaces the IT Assessment Form. The responses are entered automatically into the Cherwell Contract Database attached to a ticket. The Vendor Management team has processed 416 software and software renewal requests in 2022-2023.
- Supplier and Manufacturer contact person** for critical systems is being collected from the IT functional areas and added to the Cherwell Contract database records, providing a central source for Disaster Recovery reference.
- Systems and Organization Controls (SOC2) Type II reports** are being collected and evaluated from software vendors which host red or orange data.
- In compliance with the **Board of Governors policy 1400.1**, and WCU Policy 62, Division of IT buyers completed 962 IT-related purchase orders, valuing \$7,427,614 this fiscal year.

IT Client Support Services

- **IT Help Desk**

- The IT Help Desk and Ricoh recently completed a site survey and assessment for PawPrint, our WCU print service. The survey, conducted by experienced professionals, provided valuable data that will serve as a guidepost as we choose the path forward in providing print services for WCU. The insights gathered through this process helped identify key areas for improvement, optimize operations, and better serve the needs of customers. We will soon be unveiling the scheduled dates for the forthcoming academic year's fleet refreshment.
- We are continuing to implement Shift-Left initiatives to improve IT service delivery and enhance problem resolution accuracy and timeliness. As part of this initiative, the team has been building relationships, increasing technical skills, and growing organizational and process awareness by embedding personnel in other IT teams for limited-time engagements. Through close collaboration with colleagues in the Data Center, Networking, LMS and Applications teams, the team has gained valuable knowledge that can be shared across the entire IT Help Desk team, improving trust and communication within IT. As new staff members are incorporated into the team, all team members will participate in other IT teams several days per week, further enhancing cross-functional collaboration, knowledge sharing, and skill development. These initiatives have already yielded significant improvements in IT service delivery, and the team is committed to continuous improvement and delivering the highest quality IT services to clients while driving innovation in the years ahead.

- **Endpoint Services**

- Endpoint Services has successfully moved operations from the Moore building to Camp. Thanks to all those who assisted us with this move including Tabatha Springer, Joseph Guseman in Facilities Management, and many others.
- Endpoint Services has been working alongside the Provost Office on a computer refresh. Starting in January, this process has resulted in 315 computers being ordered. Currently about 76% of those newly received computers have been scheduled for setup.
- Endpoint Services is happy to report that Nick Jones is now the IT Asset Coordinator, and Nathan Jenkins and Anthony McCall are serving as IT Support Techs. We are currently working to have everyone trained in the various areas of Endpoint Services to ameliorate any one-deep issues in each of the teams' processes.
- There were 399 computers processed through the Surplus Pickup in June, lowering our total number of computer assets on campus to around 6,000. Over the past fiscal year, a total of 1,348 computers have been surplus.

- **Technology Commons**

- The Technology Commons hosted a very successful "Tote IT" event across campus, in which the team promoted IT support services in a creative way! Students were treated to IT t-shirts and tote bags with important information regarding how to contact support in person, on the phone, or online. The event reached over two hundred individuals.
- We welcomed a new marketing intern, Meagan Karns. Meagan will be working alongside our marketing coordinator, Mackenzie Bertrand, to create communication promoting IT initiatives, upcoming changes, and educational material for the WCU community.
- The TC team also began work on a self-service station, debuting Fall 2024, and designed to assist students after hours in searching the knowledge base, changing and updating passwords, and reserving checkout equipment.
- Our annual support of new student orientation is now complete, with the team welcoming many new Catamounts to campus, assisting them with purchasing and setting up their computers, helping them schedule their classes, and assisting parents as they prepare their students for class in the fall.
- We are excited to welcome Josiah Akers as our new Technology Commons Analyst and Checkout Coordinator. Josiah is a graduate of WCU and a former student worker in the Technology Commons. Josiah will be assisting our team in managing our equipment checkout program, which provides on demand assistance to patrons of the university in need of IT equipment.

Networking and Communications

- **Centralized authentication.** A bug in a vendor-supplied software product was identified which allowed the resolution of a long-standing issue which prevented all network authentication being centralized onto a single system. This centralization allowed the retirement of five aging Windows servers.
- **Two Network Analyst positions filled.** The Networking team welcomed two new Network Analyst positions, both filled by candidates from within IT. Although both have experience in other areas of IT, they are new to networking and have started a training plan made up of a mix of formal training and on-the-job opportunities. With the addition of these two new staff members, Networking and Communications is now 100% staffed.

Project Management Office (PMO)

- **PMO Maturity Model.** Implementation of the Gartner PMO maturity model roadmap continues, as different types of resource management tools are being discussed.
 - In addition to our current PM metrics, others are currently being defined for monthly reviews.
 - Gate Review assessment complete and revised. Rolled out to IT Department.
- **Project Changes.** Continue to define and implement IT roles and rates in our project management software to determine ROI/VOI for individual projects. This information may change with the implementation of resource tracking.
 - Project intake process review is complete.
 - Assessment has now moved to analyzing our buy vs. build process.

Staff Accomplishments

- Professional development.** The IT division regularly invests in staff professional development, insuring our employees have the knowledge and skills needed to successfully implement and manage new technologies and improved business processes. This ties directly to the division and university strategic plan goals to “invest in our people.” During the 2022-2023 fiscal year, about fifty-six DoIT staff received professional development of some sort, including events that ranged from online certification testing/renewals and conference presentations, to week-long instruction in core technologies.

- Staff Senate Trash Pickup Day.** Staff Senators Jenn Lohse, Director of the Project Management Office, and Colby Dietz, IT Administration Software & Systems Specialist, participated in the Staff Senate Trash Pickup Day.



- Several team members have completed degrees, trainings, and/or received certifications this past year. Helping team members continue developing their skillsets, aid in adding tasks to Tier 1 support via shift-left opportunities, and benefitting the division as a whole, this year’s accomplishments include:

		
<p>Josh Bright Quest One Identity Manager Customer Advisory Board</p>	<p>Dawn Brown Project Management Professional Certification from the Project Management Institute</p>	<p>Johnny Cracchiolo Juniper Enterprise Routing and Switching Specialist Certification</p>

		
<p>Shannon Frady MS in Project Management, WCU</p>	<p>Elizabeth Honbarger MS in Sports Management, WCU</p>	<p>Jason LaVigne EDUCAUSE New Manager's Institute for Cybersecurity Professionals</p>
		
<p>Cole Mathis BS in Electrical Engineering and Computer Engineering Technology, WCU</p>	<p>Jason Perry WCU Works Certification</p>	<p>Jonathan Wade Canvas Certified Instructor</p>

PROJECT STATUS

Between July 1, 2022, and June 30, 2022, the IT Division completed twenty-four projects. Currently, thirty-one projects are active and in work and six are on hold. There are twenty-six projects waiting in the queue and twenty-five in discovery. Below are updates on selected projects:

Athletics Ticketing System Replacement

A new ticketing system has been selected to replace Technotic Sports.

- Status: Complete.

Chancellor's Board Room

The Chancellor has requested an upgrade to the current boardroom, increasing efficiency and effectiveness in the space.

- Status: Complete.

Association of Governing Boards (AGB) OnBoard Implementation

This project implements the AGB OnBoard application for use by the Board of Trustees, and will allow the sharing of information/documents and private group communications.

- Status: In Progress.
- Go Live: September 2023.

Microsoft Teams Roadmap and Governance for Campus

Analyze campus requirements for Microsoft Teams and related M365 tools (as well as possible applications for integration), IT capability for supporting additional tools, and updated definitions for both supported and best effort applications.

- Status: In Progress.
- Go Live: December 2023.

EndPoint Device Management Tool

The Endpoint Device project will allow IT to manage University-owned devices, computers, laptops, phones, tablets, etc., while these devices are either on- or off-campus. Several thousand endpoint devices have been moved to the new tool.

- Status: Complete.

Academic Progress Reporting Application

Replace aging application that will take advantage of efficiencies that are not currently employed.

- Status: In Progress.
- Go Live: December 2023.

Course Program of Study (CPoS) – Title IV Regulation update

The primary regulation that will be addressed with this project is to ensure that students who receive Title IV funds are taking appropriate courses as part of their program of study. New product is being investigated to fulfill the requirement.

- Status: In Process.
- Go Live: Fall 2024.

Integrate ARMS with Slate

Admissions would like to integrate the ARMS (NCAA Compliance Application) data of student athletes into Slate (Admissions CRM). This would provide Admissions with daily updates needed to help identify the students who are being recruited by Athletics and remove the manual processes which are currently required.

- Status: Complete.

Student Affairs eBook pilot

This project will create a pilot of using eBooks/eTextbooks and possible use of publisher content for select courses at WCU.

- Status: Pilot completes Fall 2023.

Student Worker Scheduling and Time Clock Phase 1

Determine if there is a solution or solutions to help the Division of Student Affairs, and other interested entities at WCU, for a "Time Clock" system.

- Status: In Progress.
- Go Live: TBD.

Update Odyssey PCS Meal Plan

Review of the Odyssey PCS meal plan feed from Banner. Specifically, we need the feed to consider the registration for future terms to send over summer meal plans.

- Status: Complete.

Banner 9 Self Service: HR

This project involves the implementation of Banner 9 Employee Self Service. All but one of the applications are live and in-use. The remaining functionality – Time Entry – has been tested by HR with the System Office.

- Status: Complete.

Summer Personnel Action Form (PAF) Workflow

The purpose of this project is to automate the Summer Personnel Action Form (PAF) process through an electronic form that includes an approval workflow. The Summer PAF is used to hire the faculty who teach the courses offered during the summer sessions.

- Status: Complete.

Data Center Micro-segmentation

Phase 1, isolating servers in our HIPAA and Finance VLANs, is complete, and we are now leveraging VM capabilities in several instances, including as a compensating control for an HVAC system, and applications residing in the Finance and HIPAA VLANS. Phase 2 will include expanding to protect other critical systems. We are working with the Security Office to identify which systems to include in the Phase 2 deployment, and we continue to move servers as we evaluate the budget, including the Bookstore Time system, Dining Services, and others.

- Status:
 - Phase 1 Complete
 - Phase 2 has started via moving existing hosts into our NSX environment.
- Go Live: Continuing; NSX environment completed by end of year.

Security Operations Center (SOC) Strategy

This project will address the increasing pressure of all IT organizations to deal with cybersecurity attacks, incidents, and breaches by expanding our ability to detect and avoid risks to our network, systems, and data. The potential solution

could leverage outsourced capabilities for infrastructure, staffing, and real-time threat analysis utilizing industry trained experts and cloud-hosted infrastructure.

- Status: Ongoing
 - Met with the following vendors to review their offerings: ExaBeam, Varonis, Insight, Rapid7, and MS Sentinel.
- Go Live: Budget request being prepared for next budget cycle.

myWCU 2.0 – Phase 1

The vendor, Ellucian, has announced the end-of-life for the previous myWCU platform. A project is underway to develop a strategy, updated requirements, and a new technical platform for a replacement student/faculty/staff portal.

- Status: In Progress.
 - Overall architecture has been confirmed through a proof of concept.
 - User governance and prioritization committees have been formed.
 - A widget supporting the Honors College has been added to the existing myWCU1.0 suite.
- Go Live: June 2024.

SharePoint Migration Implementation

With the planning project complete, this project begins the migration of sites, forms, and workflows identified in the SharePoint Migration Plan to the Azure Cloud environment.

- Status: In progress.
- Go Live: Summer 2023.

Banner Operational Reporting Environment

With the planning project complete, this project begins the migration of sites, forms, and workflows identified in the SharePoint Migration Plan to the Azure Cloud environment.

- Status: In Progress.
- Go Live: Summer 2024.

OnBase Development Environment Implementation

This project will create a development/test environment for our campus-wide tool for document management – OnBase – enabling better testing and upgrade planning.

- Status: In Progress.
- Go Live: Summer 2023.

One Identity Manager (Phase 6)

This project includes ongoing security and process improvements for Banner ERP modules and enterprise applications. A key goal of Phase 6 is to fully automate user access for Banner Admin ERP, sensitive file shares, and shared mailboxes to the business owner, allowing the business owner to add and remove users without IT involvement. Automation for General ERP access and Advancement module is underway. Primary focus for business access automation is for the Purchasing (Finance/Catamart) business roles for financial roles of Accountable Officer, Designee, and Requester. Access automation code for integration and business service layer is code complete and undergoing testing.

- Status: In Progress.

Core Network Upgrade

The scope of this project will replace aging Juniper equipment, leverage new campus fiber infrastructure, enable the growth of the core network beyond 10GB, enhance security by allowing more segmentation of the campus network, and provide additional network features not available with the current infrastructure.

- Status: Complete.

External Network Program Review

Evaluate WCU's Networking department vs other best practices seen at high performing networking organizations at other higher ed institutions.

- Status: Complete.

Network Detection & Response (NDR) Eval, Design, Implementation

This project will evaluate the market and capabilities of network-based intrusion detection/prevention and identify probable locations on the network to best monitor network traffic for intrusions. This project will further attempt to understand gaps in our current cyber intrusion detection that might be filled by NDR. If an NDR solution is evaluated as a necessary improvement to the campus security framework a proposal will be developed and if funded implement the proposed solution.

- Status: Complete.

Advanced Metering Infrastructure for Western Carolina Power – Analysis

This project request will provide analytical support to Facilities Management (FM) as they select a solution to provide 2-way communication meters. This will help them through the RFP process and implementation of the solution selected. The end result of this FM project will be an actively monitored re-sale electric system where outages and faults will be quickly identified, power meters can be remotely tuned on and off, and customers will be able to see their power consumption data.

- Bids received; final vendor selection underway.
- Status: In progress.

Cable TV Planning & Implementation for Fall 2023

Work with Residential Life to decide if we will continue to provide cable TV in the residence halls. If not, then we will need to find a way to continue to distribute cable TV to those locations that still want/need to receive cable TV.

- Commercial streaming alternatives are not as readily available as initially thought. The existing Cable TV contract may be extended for one more year to give more time to find appropriate streaming alternatives.
- Status: In progress.

Ramsey Center Cellular & WiFi RF Design - Phase 1

It has been determined that there is not enough Cellular or WiFi capacity when the Ramsey Center is full of people. This occurs multiple times per year – sports events, convocation, graduation (both university and local high schools), and other scheduled Ramsey events. Of special concern is WCU graduations. Without a robust Cellular and WiFi environment in key areas of the Ramsey building, graduation staff cannot communicate effectively with other staff or graduating students. Parents have commented on the lack of services during events. Some concerns have been raised about being able to communicate with graduating students in the event of critical schedule change or in the event of an emergency.

- Status: Review and debriefing of results scheduled for Fall 2023.