

ONE IT STRATEGIC PLAN 2018-2022

Update as of December 14, 2022

GOAL 1: IT ORGANIZATION AND SERVICE EXCELLENCE

Champion: University Information Technology

2022

- Implemented IT Asset Management software to accurately report hardware and software used on UND-owned devices, to improve data security, reduce cost through redeployment and license evaluations, minimizes costly software audits, improve the budget process, and help identify and understand product usage to better negotiate new agreements, avoids risks of non-compliance (e.g., fines, unsupported software, and publicity). The IT Asset Management policy was created to support the efforts.
- Streamlined procurement process to include VPAT (accessibility) and HECVAT (data security) evaluation and approval process.
- Expanded campus wide streaming efforts to support increasing demand for hybrid conferences, meetings, and townhalls (Strategic Plan, DEI conference, Security Symposium, Northern Lights etc.)
- Expanded helpdesk phone support to 24/7 to accommodate remote workers and online student needs
- Continue to provide leadership training to managers and other staff members.

2021

- Kicked off a supervisor training series for the leads and supervisors at UIT designed to build community and support our mission.
- Promoted several internal staff to new leadership positions as vacancies occurred across UIT.
- Hired a Lead IT Project Manager whose responsibilities are to manage university wide projects, develop project management procedures and standards, and build relationships internally and externally to improve communication and campus-community relations.
- Project underway to launch a new IT Asset Management software that will allow UIT to be proactive in our review and updating of assets, including hardware and software, to better serve the campus.
- Technopalooza
 - Spring Virtual Technology Fair
 - Two (half) day technology fair primarily targeting faculty and staff
 - Nineteen topics offered with 46 session times available
 - 186 attendees over the course of the two days (not unique individuals)
 - Positive feedback was provided through various surveys
 - A great benefit added to the UIT yearly events. This provided a way for individuals to learn more about the technology offered at UND. Different departments collaborated with UIT to pull it off. Those departments included: College of Engineering and Mines, Chester Fritz Library, High Performance Computing, and the Teaching Transformation and Development Academy

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- Fall in-Person Technology Fair
 - One day event held on the 3rd floor of the library.
 - Multiple presenters hosted in person training sessions on technology that is offered at UND as well as 2 DocuSign hands-on training sessions.
 - Next year UIT would like to offer Technopalooza as a hybrid event
- As of early December 2021, UIT is directing 46 active projects from network or classroom upgrades to capital projects that involve any number of areas within UIT.
- In 2021, UIT completed 52 projects involving some aspects of UIT including cybersecurity, networking, web development, IT asset management, and telecommunications and, in collaboration with multiple campus and external partners.
- 16,589 help desk tickets were created in 2021. (Nov 1, 2020-Oct 31, 2021)
- 88.42% of Tech Support issues were resolved on the initial contact or within the hour in 2021. That is an increase from 2020's 81.64% and 2019's 75.92%.

2020

- Published the Digital Accessibility Policy in collaboration with various departments across campus.
- Work underway to create a Technology Standard Policy. The working group includes representation of various departments and campus demographics (students, faculty and staff).
- COVID-19 initiatives
 - During the COVID-19 pandemic, UIT went above and beyond to provide service that exceeds the expectations of the customer. Many thanks were given throughout campus. The number of tech support calls increase by 150% during the first week UND went remote.
 - Over 2000 pieces of equipment were procured and distributed for faculty and staff in order to help them successfully work remotely
 - During the time campus went remote, UIT had to immediately transition the way we offered our services. We made services more accessible through the utilization of a virtual kiosk and self-serve lockers. Both were able to provide the same services except there was no contact.
 - Created a web application used during COVID testing events to gather numbers of participants and affiliation to UND or community.
 - Created a web application allowing students to choose to register at COVID testing events for a door prize.
 - Created web application to track student mask distribution at the beginning of the semester.
 - Provided technical support for various Town Hall meetings.
- Through UIT department newsletters, recognition is given for those who have hit milestones and accomplishments.

2019

- Adopted industry standard IT Service Management (ITSM) for continuous improvement of customer service by using data to consistently measure and improve processes and services.

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- Implemented a new help desk ticketing system, Team Dynamix, to better coordinate service requests across campus using ITSM methodology.
- Created the project management office and implemented project management methodology to ensure strategic alignment, leadership, clear focus and objectives, realistic project planning, and quality control for large scale campus wide information technology projects.
- Trained staff on project management, digital transformation, and value of IT to better understand where the industry is going and how to adapt to change.
- Consolidated NDUS identifier credentials for email to improve user experience and increased security.

GOAL 2: STUDENT EXPERIENCE

Champion: University Information Technology

2022

- In August 2022, the My UND mobile app was launched for current students. The app received the gold award at the 10th Annual Education Digital Marketing Awards. The app was also nominated for the best design and integration at the National Educause Conference.
- The Makespace was upgraded with newer 3D creation equipment.
- A UIT student employee was nominated for the Student Employee of the Year award.

2021

- Work is underway to develop a mobile campus portal, focused initially on enrolled students, that will present a more simplified and inclusive user experience and that can serve as the primary point of contact for student engagement. This project is a collaborative effort among academic affairs, marketing and communications, student government, and student affairs.

2020

- COVID-19 initiatives
 - Through the CARES funded Laptops for Learners program, over 3000 laptops were distributed to financially eligible students. There was a lot of great feedback and students were very appreciative.
 - Provided MIFIs and laptops for checkout
- A request for proposal was issued to procure a platform to create a campus portal with a focus on students in the first phase.

2019

- Started implementing the Customer Relations Manager (CRM) to attract prospective students with mobile-friendly and streamlined application process, chatbots to instantly

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get answers for admissions related questions, and smarter, targeted, timely communications.

- Implemented a mini makerspace for 3D printing to enhance student projects and foster creativity.
- Introduced more features to the student printing system such as scan to cloud or email.
- Increased uPrint stations in off campus locations.
- Work has begun on creating a comprehensive communication plan for students, faculty, and staff

GOAL 3: DATA-INFORMED DECISION SUPPORT SYSTEM

Champion: Office of University Analytics and Planning

2019

- Implemented SELFI dashboards for students to assist with course selections. The dashboards are restricted to UND community.

GOAL 4: RESEARCH COMPUTING

Champion: VP for Research and Economic Development

2022

- UND Computational Research Center (CRC) - General
 - Organized a Campus-Wide Research Computing Evaluation* to be conducted by external evaluator:
 - Cooperating entities included: UND IT directors from CRC, Aerospace, Med School, UND EERC, Engineering, and NDUS CTS.
 - Purpose: to determine the cyberinfrastructure resources (HPC computing hardware, storage hardware, support staff, expertise, CMMC 2.0, and physical building [space, power, cooling] needed to support UND research over the next 5-10 years.
 - Achieved NVIDIA Deep Learning Institute Certification of University Ambassador in the areas of:
 - Artificial Intelligence
 - GPU Programming
- UND CRC – New Employee Hires
 - Students
 - Digital Engineering Technician for 3D Printing and Design
 - Assistant Cyberinfrastructure (CI) Engineer
 - Part-time Non-student:
 - 3D Artist/Content Developer for Digital Twin and Metaverse Applications
- UND CRC – NDUS Data Center
 - Storage Upgrades for Research Computing
 - GPFS Primary Storage for Talon HPC (supercomputing system)
 - Retired DDN GS7000 Storage appliance

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- Expanded DDN GS7990 Storage appliance
 - Added 2 x Expansion Chassi
 - Added Approx. 250 Drives
- Total capacity increased from 2.5PB to 4.4PB
- Replaced Hyper-V virtual machine storage with new 32TB Lenovo Storage NAS appliance
- Expanded NDUS Data Center – Research Ethernet Network
 - Added 2 x Cisco Nexus C93180 Switches
 - Added 2 x Cisco Nexus C93108 Switches
 - Purpose: Prepare AM row of NDUS data center for the arrival of:
 - Lenovo/NVIDIA Omniverse OVX Server*: Used for AI Synthetic Data Generation, Digital Twin design and simulation, and virtual reality simulations in support of research into autonomous systems, defense applications, space applications, and other scenarios requiring Digital Engineering or Virtual Reality.
 - UND Digital Engineering Cluster (DEC)* - Virtualized Accelerated Desktops for DE applications
- Server Acquisitions and Migrations
 - Replaced UFM Monitoring Server for Talon InfiniBand Network
 - Migrated 2x Remote GPU Accelerated Research Desktop Servers from UND AI/VR DREAM Lab to NDUS Data Center
 - Designed and Started procurement of the DEC* to be delivered and installed Jan 2023.
 - Support for 50 concurrent users (Students/Faculty)
 - GPU Accelerated
 - Built upon VMware and NVIDIA vGPU Virtual Workstation technology
 - Consists of 5 x Lenovo servers with:
 - 320 x (32 cores x 2 CPUs x 5 servers) Intel Platinum CPU cores
 - 20 x (5 x 4) virtualize-able NVIDIA A40 GPU accelerators
 - Managed by UND, CRC, but will be integrated into the UND UIT Citrix replacement once the Citrix replacement has been acquired.
 - Designed and procured OVX Server* for Omniverse Digital Twin and Metaverse applications to be installed Jan 2023.
[\(https://omniverse.nvidia.edu/\)](https://omniverse.nvidia.edu/)
 - Single Lenovo servers with:
 - 320 x (32 cores x 2 CPUs x 5 servers) Intel Platinum CPU cores
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 - Single Lenovo server with:

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- 64 x (32 cores x 2 CPUs) Intel Platinum CPU cores
 - 8 x virtualize-able A40 GPU accelerators
 - Omniverse Enterprise – metaverse software stack
 - UND CRC – Artificial Intelligence and Virtual Reality DREAM Lab (UND AI/VR DREAM Lab)
 - Lab name was changed to conform with the pending industry partnership agreement in the area of: Digital Realism in Engineering and the Applied Metaverse
 - Acquired the following Virtual Reality / Augmented Reality equipment:
 - 4 x Varjo XR-3 Augmented Reality (AR) Headsets in support of:
 - Defense Resiliency Platform Against Extreme Cold Weather (DRP) - AR Artic Simulator <https://blogs.und.edu/und-today/2022/08/und-joins-four-year-17-million-arctic-research-project-with-dod/>
 - General UND Research
 - 2 x Meta Quest 2 and 1 x Meta Quest Pro VR Headsets in support of:
 - Deployment of SoftPlan (<https://ww2.softplan.com/>) VR walk-thru technology in collaboration with the Cankdeska Cinkana Community College (CCCC) housing project
 - General UND Research
 - 2 x KAT VR C2 Treadmills (Ready Player One style) in support of: <https://www.kat-vr.com/products/kat-walk-c2>
 - DRP – AR Artic Simulator
 - CCCC housing project
 - General UND Research
 - Upgraded lab green screen room with Chomakey green floor and ceiling
 - Upgraded all lab workstations with Omniverse-compatible NVIDIA RTX graphics cards
 - Acquired VBS4 Whole-Earth simulator through DRP funding and deployed it in the lab's green screen room as the basis of the AR Artic Simulator. (<https://vbs4.com/>)

(* Paid for through UND National Security-Space Funding)

2021

- UND Computational Research Center (CRC) – General
 - CRC staff moved into new offices and AI/VR Lab space located on the 3rd floor of the Chester Fritz Library
 - Increased full-time benefited staff to 3 x people
 - Advanced Cyberinfrastructure (ACI) Manager (existing)
 - Sr. ACI Research and Education Facilitator (Oct 2020)
 - Cyberinfrastructure Engineer (June 2021)
 - Additional 1.25 FTE via NDUS CTS SLA (existing)
- Presented at UIT Technopalooza events on HPC, AI, and Virtual Reality
- Increased Active Student Positions from 2 to 3 x people:
 - ACI Student Facilitator (existing - left position in June to be CI Engineer)

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- 1 x ND-ACES Graduate Research and Education Facilitator (Aug 2021)
 - was existing CI Assistant
- 1 x ND-ACES Graduate Student CI Assistant (Aug 2021)
- 1 x AI/VR Undergraduate Student Programmer (Oct 2021)
- UND CRC – NDUS Data Center
 - Deployed 100Gbps ScienceDMZ Network on I2
 - Completed HPC Data Center Ethernet Network Upgrades
 - Decommissioned HPC Equipment purchased in 2012.
 - Decommissioned Hyper-V Virtual Machine Farm purchased in 2012
 - Deployed new Hyper-V Virtual Machine Farm consisting of:
 - 3 x HPE DL 560 servers (each containing 4 x 18-core CPUs and 3TB RAM)
 - 1 x Lenovo 32TB Direct Attached Storage appliance.
 - Deployed CRC-owned 2PB data backup system in the NDSU CCAST Data Center located in Fargo on the NDSU campus.
 - Installed 2nd ND-ACES funded GPU Compute Node in Talon HPC System
 - Deployed AI400 All NVMe storage appliance for Talon AI / GPU Direct Storage workloads funded through NSF MRI award.
- UND CRC – AI/VR Laboratory
 - Constructed Green Screen space for Mixed & Augmented Reality environment in support of DoD award for Defense Resiliency Platform Against Extreme Cold Weather
 - Deployed VDI vGPU AI remote desktop workstation infrastructure from AI/VR Lab in support of ND-ACES and general UND research activities.
 - Deployed new 3D digitization resources in AI/VR Lab, including:
 - 3D scanning room workstation with digitization software
 - Artec 3D Leo large object laser scanner
 - Artec 3D Space Spider small object laser scanner
 - XSENS Awinda 3D full-body motion capture suit
 - Manus VR motion capture gloves
 - Deployed Sage 3 (<https://www.evl.uic.edu/research/2494>) remote collaboration server and constructed 3x3 9-monitor panel wall as proof-of-concept collaboration environment for future DoD and Space Force research.

2019

- Work is underway to upgrade Chester Fritz Library network to 10gig to support computational research
- Hardware purchased for new faculty to facilitate computational research
- Hired four students as facilitators
- Norther Tier Network upgrade discussions underway in collaboration with University of Minnesota, NDSU, and South Dakota institutions.

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GOAL 5: TEACHING AND LEARNING

Champion: Teaching Transformation & Development Academy

2022

- Worked with the North Dakota University System to complete the transition to Blackboard Ultra Base Navigation (UBN) in January 2022.
- Began planning to transition to Blackboard Ultra Course Experience with a tentative timeline for completion in the Spring of 2024.
- UIT provided training to TTaDA staff on classroom technologies.
- Assisted UIT with marketing and the delivery of sessions to gain faculty feedback on the classroom touch panel user interface.
- Provided training on Blackboard Ally and the ability to make course content accessible – including participation in the third annual “Blackboard Fix Your Content” event.
- Developed and offered new Blackboard workshops for Cleaning Up Course Content and Copying Course Content.
- Developed articulate interactive guides for incorporating accessibility, DEI, syllabus statements, exam security, academic integrity, and more.
- Worked with the College of Engineering and Mines to create visual lab activities.
- Continued to offer support and training for remote proctoring options: ProctorU Auto with Review, ProctorU Live+, YuJa Proctoring, Respondus Lockdown Browser, and individual proctoring to allow for flexibility with exam security. Workshops and other resources on Alternative Assessments were offered to encourage other assessment methods.
- Continued implementation of Syllabi and Riipen platforms. Added and promoted partnership with COIL – Collaborative Online International Learning.
- Held faculty accessibility panel to learn from faculty how to incorporate accessibility into all course delivery modes.
- Collaborated with UND Online to begin working on Online Persistence and Retention (student success coach) pilot with Psychology, Civil Engineering, and SPED.
- Continued to support hyflex initiatives by offering a faculty panel in Spring 2022.
- Launched Blackboard Analytics for Learn and began pulling and reviewing data, as well as offering workshops on learning analytics.
- Participated in the Campus Accessibility Working Group. TTaDA staff are leading the sub-group for Universal Design for Learning and are part of several other sub-groups.
- Continued efforts regarding Open Education Resource campus initiatives.
- Led and participated in RFI/RFPs for various academic technologies.
- Started developing processes/procedures for deprovisioning user accounts and content clean-up for academic applications (YuJa recordings, Zoom recordings, etc.)
- Assisted with New Faculty Orientation in Fall 2022 to help new faculty become familiar with academic technologies.
- Led sessions on Blackboard for New Student Orientation.

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- Continued to develop and update knowledgebase articles, websites, and other resources supporting academic technologies.

2021

- Finalized the development of 16 UND-branded “recording studios” in buildings across campus designed, and equipped with the technology needed, for faculty to create digital content for online and hybrid teaching.
- Provided 58 classrooms with additional monitors at the teaching stations, ceiling microphones were installed in 29 classrooms & 55 classrooms moved from analog to digital technology
- Provided training on Blackboard Ally and making course content accessible – including participation in second annual “Blackboard Fix Your Content” event.
- Developed and launched a self-paced online workshop for Blackboard Getting Started.
- Several HyFlex (hybrid-flexible) sessions were offered. Dr. Brian Beatty, author and international speaker presented various virtual sessions on developing and teaching HyFlex courses.
- Hosted the Fall Innovative Learning Symposium, Inclusion Across Campus: Strategies for Building Belonging with internationally known speaker and author Karen Crawford Simms. UIT provided technical support throughout the event.
- Modified online course review rubric within Qualtrics for HyFlex courses and expanded accessibility criteria.
- Worked with North Dakota University System to prepare for transition to Blackboard Ultra Base Navigation (UBN) coming in January 2022.
- Zoom and YuJa usage continued to expand across campus as demand for hybrid, hyflex, and online learning continued to grow.
- Continued to offer support and training for remote proctoring options: ProctorU Auto with Review, ProctorU Live+, YuJa Proctoring, Respondus Lockdown Browser, and individual proctoring, to allow flexibility for exam security. Workshops and resources on Alternative Assessments were offered to encourage other assessment methods.
- Continued implementation of Syllabi and Riipen platforms.
- Staff Career and Professional Development coordinated workshops for Microsoft Teams and other Microsoft technologies, and Google browser training. Developed and launched just-in-time training videos for these technologies.
- O’Kelly 343 was designed with technology to support TTaDA’s Professional Development and Training.

2020

- COVID-19 initiatives
 - Over 200 classrooms were upgraded with audio/visual and other technologies to create a hybrid teaching environment. CARES funding was used to add cameras, boundary microphones, Wacom tablets, plexi glass, and other necessary equipment.
 - The Chester Fritz Auditorium was temporarily converted to a classroom to accommodate large classes. The auditorium was upgraded with technology and wireless network.

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- Purchased technology equipment to create 16 recording studios. The work will be completed in 2021.
- Provided hands-on training in technology enhanced classroom for faculty to familiarize before the start of the fall semester.
- Provided on-site tech support during the first three weeks of classes through the Jump Start program.
- Provided series of faculty training sessions to prepare for developing and teaching online, hybrid, and hyflex courses.
- Assisted faculty in transitioning courses from on-campus to online. This included workshops, the Online Course Development Blackboard site, instructional design consultations with faculty, reviewing and providing feedback on course content and syllabi, and providing academic technology support.
- Assisted with development of and training for online laboratories. Also assisted with integration of Labster into Blackboard
- Added Riipen integration to Blackboard to allow for project-based learning opportunities
- Provided several Universal Design for Learning (UDL) sessions– Dr. Thomas Tobin, author and international speaker presented various workshops throughout a 2-day visit to UND on UDL, TTaDA facilitated a book study on Dr. Tobin’s book “Reach Everyone, Teach Everyone”, and other workshops
- Provided training on Blackboard Ally and making course content accessible – including participation in “Blackboard’s Fix Your Content” event
- Developed and launched self-paced online workshop for YuJa Getting Started and Qualtrics Beginner. Blackboard Getting Started self-paced online workshop is in development phase.
- Developed a rubric within Qualtrics to aid instructional designers in the course review process. Based on the rubric, faculty are notified whether the course meets or exceeds TTaDA’s online course quality expectations or needs further development.
- Collaborated with UIT and UND Online to implement Syllabi software to standardize
- Added Digital Media Studio for faculty and staff to use for high quality video production.
- Added Blackboard integration for Follette Discover (UND Bookstore) to allow seamless access to textbook information for courses.
- Transitioned to ProctorU Auto with Review as recommended ProctorU service. ProctorU Live+ continued to be available and YuJa Proctoring, Respondus Lockdown Browser, and individual proctoring were also made available to allow flexibility for exam security.
- Workshops and resources on Alternative Assessments were developed to encourage other assessment methods.

2019

- Active Learning strategy workshops held for faculty
- Held workshops in support of implementing teaching strategies and designing courses focused on improved learning outcomes
- Work underway to upgrade 13 classrooms with technology and environment to active learning
- Streamlined faculty onboarding processes to ensure needed access to software and technology are in place upon their arrival for orientation

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- Expanded Zoom and Yuja usage across campus
- Implemented Blackboard Ally to facilitate creation of course content with usability, accessibility and quality in mind
- Hired Digital Media Instructional Designer to develop innovative and interactive content for courses
- Integrated Blackboard with PeopleSoft for entering of grades
- Implemented digital badging for faculty, staff, and students

GOAL 6: INFORMATION TECHNOLOGY INFRASTRUCTURE

Champion: University Information Technology

2022

- Updated the Network Campus Core to support up to 100 gig connections for future growth particularly in research.
- Provided network, telecommunication, and audio visual to new buildings – Nistler, McVey, and Brannon
- Kicked off the telecommunication modernization project to overhaul current telephony (777-xxxx) system. The project is expected to be completed in mid-2023.
- Deployed several multi functional printers to departments in support of the centralized printing project.

2021

- Added a diverse network path to the west side of campus to reduce the risk of an outage to JDOSAS's five campus buildings and airport flight operations during the construction of the New McVey and West residence halls.
- Installed redundant 67 power supplies for network switch stacks as backup for the 27 buildings without a backup system.
- UIT & UND Safety worked to implement a unified security platform that blends IP video surveillance and building access control within one intuitive solution while maintaining visibility to alarms monitoring and building automation systems currently in use. Over 325 cameras and 60 buildings with exterior door access were loading into the LiveEarth platform. This platform allows security measures to lock down all of our campus buildings with a click of a button. When the Memorial Union floor plans are completed there will be about 70 more cameras added.
- In the new Memorial Union we installed 30 network switches, 154 internal access points (APs) and 2 external APs.

2020

- Completed the UND wireless network upgrade throughout all of campus
- Completed the hard-wired network upgrade in residence halls
- Additional network upgrades and testing to prepare the out of service residence halls for occupancy to support COVID-19 resistant needs. This included Bek, Walsh, Fulton, Johnstone and Swanson.

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2019

- Upgraded several research-intensive buildings to 1gig network infrastructure to support academic and research efforts
- Work underway to migration disparate networks to single UND network to allow for centralized management, visibility, and increase security
- Completed modernization of wireless infrastructure across campus buildings.
- Completed core network upgrade and increased bandwidth to entrance switches
- Work underway to increase bandwidth in residential halls to attract students

GOAL 7: INFORMATION SECURITY AND RISK MANAGEMENT

Champion: University Information Technology and university Public Safety

2022

- Conducted phishing campaigns throughout the year. UND lowered its phishing rates from 21.27% to 10.8%.
- The Report as Phishing button usage increased from 3.2% to 11.91%.
- Administered two quizzes through Qualtrics with a total of 3,008 responses.
- Partnered with the Center for Cyber Security Research and participated in the 2nd Annual Cyber Awareness and Research Symposium (CARS) event.

2021

- Sensitive Data Security.
 - Spirion Sensitive Data Manager is a software that identifies sensitive data and provides an option to dispose of the sensitive data (PII, University private/restricted data). This Sensitive data manager software was deployed to all UND owned campus devices.
- Network Access and Endpoint Security.
 - Palo Alto Cortex XDR, an antivirus software was tested and deployed to 5000 UND campus owned devices.
 - Mac devices currently do not have the Palo Alto Cortex XDR software because of discovered network issues found during testing the software.
 - The Palo Alto Cortex XDR rollout is currently sitting at 73% completion as of December 2021.
- Cybersecurity Awareness Training and Personnel.
 - Month-long cybersecurity awareness campaign was conducted in October via Social media posts, U-Letter articles, and tips, email, infographics. Provided cybersecurity best practices, procedures, and awareness training to UND campus in support of remote work.
 - Conducted a phishing campaign across the UND campus. 16% clicked on the phishing email. That is an increase from only 7% clicked on the email last year in 2020. More campaigns and education will be planned for the coming year.
 - Hired a new IT Security Officer to fill the vacant position.

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- 3,461,087 phishing/scam emails and 37,555 malware emails were blocked in 2021

2020

- Sensitive Data Security.
 - Updated KB for Liquid File Share. Provided procedures on how to set up Outlook Plug-in for easier access to ensure secure data transmission
 - Tested and deployed Spirion Sensitive Data Manager client to UIT and selected IT Director department personnel (Nov 2020). Preparation for Jan 2021 campus-wide deployment. Provides tool to identify and disposition of sensitive data (PII, University private/restricted data)
- Network Access and Endpoint Security.
 - Identified over 3000 UND users and 7 department VPNs for DUO Multi-factor Authentication (MFA) deployment. Increased security on user accounts and network access.
 - Worked with CES team to identify procedures and Group Policy to ensure UND remote computer systems are updated with latest vendor OS Security Patches
- Work from Home/Virtual Course Security.
 - Partnered with TTADA to identify and configure added security for Zoom videoconferencing which increased exponentially throughout 2020
 - Identified steps needed to deploy (and deployed) DUO 2FA on existing VPN. Provides added security for UND users remotely accessing UND network
 - Developed and provided cybersecurity best practices, procedures, and awareness training to UND campus in support of remote work (Mar 2020)
- Cybersecurity Risk Management Assessment.
 - ND Auditor directed security assessment and penetration testing UND network completed Nov 2020. Identified vulnerabilities and recommended fix actions (pending official report – Dec 2020)
 - Conducted 100% Cybersecurity Maturity Assessment (CMA) on UND network security controls. Identified areas for improvement. Data utilized by NDUS and NDIR for state-wide cybersecurity health and future planning and programming
- Cybersecurity Awareness Training and Personnel.
 - Month long cybersecurity awareness campaign - Oct 2020. Social media posts, U-Letter articles and tips, email, infographics. Provided cybersecurity best practices, procedures, and awareness training to UND campus in support of remote work
 - Conducted Phishing campaign across UND campus. Increased awareness and saw improved numbers in phished users.
 - Added a Cybersecurity Analyst position to UIT to provide day-to-day proactive threat management, mitigations, and respond to cybersecurity incidents. Hired and filled position in August

2019

- Successfully implemented BitDefender endpoint security with over 98% compliance rate across campus including off-site areas.
- Completed multi-factor authentication for email services to staff, faculty, and students.

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- Standardized multi-factor authentication to all software holding private and restricted data
- Implemented a review process for software that includes a vendor assessment tool for cloud-based systems storing private and restricted data.
- Conducted cyber security awareness training to students, faculty, and staff
- Initiated cyber security phishing campaign to educate community on how to be aware of and identify phishing attempts
- Implemented encrypted secure wireless