The past year has brought us unique challenges, but also opportunities. The ITS team has delivered. Not only has ITS continued to serve the diverse needs of faculty, staff and students through a most unexpected year, but the team has also found new and innovative ways to increase efficiency, effectiveness and impact. The future of IT at the University of Nebraska is strong.

-Ted Carter
President, University of Nebraska
Thank you for taking a few moments to check out our 2020 NU ITS annual report. The past year certainly did not follow a typical path, as we all navigated the COVID-19 pandemic and its impact on our lives and communities.

For NU ITS, 2020 was a profound call to serve and align to what matters most. I am thrilled that our IT teams had the opportunity to step up, listen to the quickly-arising campus needs from faculty, staff and students, and respond with solutions and results. Technology proved to be a strategic differentiator, as our core suite of tools and support scaled seamlessly to help NU achieve business continuity and successfully move to fully remote teaching and learning. This shift was critical in order for NU to maintain its focus on the ultimate goal of helping students succeed as Lopers, Huskers, and Mavericks.

Our year of service was coupled with tremendous gains in cybersecurity and an ongoing focus on creating operational efficiencies as a division. These efforts - as well as key advancements in increasing student affordability and expanding access - illustrate the ITS commitment to empowering the university’s Five Year Strategy.

As we close the chapter on this significant year for our IT services and teams, I can’t help but also look forward to the future, where the momentum brought through the digital transformation of 2020 will bring exciting possibilities for Nebraska.
The mission of the University of Nebraska (NU) states that the four campuses of the University system bring unique strengths together to create an exceptional level of quality and impact. In direct support of advancing this mission, University of Nebraska Information Technology Services (NU ITS) - an organization now in its third year of existence - is a unified IT division serving the Kearney, Lincoln and Omaha campuses, as well as Central Administration. As a service organization, NU ITS is focused on providing reliable services while continually listening to students, faculty and staff in order to align our support where it is needed most.

The OneIT initiative of 2017-18 unified IT budgets and created our organizational structure. To maximize efficiency and operational excellence, we utilize five scaled service areas - Security, Infrastructure, Client Services, Enterprise Services and IT Strategy - as well as two Communities of Practice in Application Development and Academic Technologies with campus-specific teams to respond to support and training needs of our individual campuses.

This report is an opportunity to tell you more about the scope and impact our division provided in 2020. It is organized around our major points of pride from the past year: scaling our services in response to the COVID-19 pandemic and heightened campus needs for remote teaching, learning and working solutions; empowering the rapid digital transformation of 2020; advancing IT security and organizational efficiency; and partnering broadly across the University of Nebraska communities to deliver solutions.

IN THIS REPORT...

Supporting the University of Nebraska  
Aligning to What Matters Most  
Empowering Remote Teaching & Learning  
Advancing Digital Transformation  
Championing Security & Organizational Efficiency  
Delivering Solutions for Our Partners  
Celebrating Our Dedicated NU ITS Staff  
Serving Our Campus Communities - A 2020 Snapshot
NU ITS VALUES

In collaboration with our campus communities, we will:

Be excellent by exceeding expectations;

Be champions for our people and our partners;

Be great listeners who empower stakeholder needs;

Be forward-thinking through innovation to create solutions;

Be trustworthy through integrity, transparency and communication.

STRATEGIC ORGANIZATIONAL GOALS

Services. Provide an exceptional customer experience and outstanding, responsive IT services that are consistent and reliable across all locations, well understood, and valued by our communities.

Security. Create a safe and secure environment that minimizes risk, protects privacy and data, and empowers the university community to do its work through transformative technology. Security is a part of everything we do.

Scale. Work together to achieve economies of scale so that we optimize resources, deliver on our financial commitments, and reallocate resources for emerging needs and innovation.

People. Commit to investing in our people so that we build an exceptional work environment with avenues for advancement and growth, and maintain an inclusive culture that embraces diversity in all forms. Empower our staff to facilitate broad collaboration and be outstanding partners to students, faculty and staff.

Alignment. Through agility and a bias for action, support and align to what matters most in service to the University of Nebraska and the campuses we serve.
2020 was an unprecedented year in many ways. As NU ITS continued our momentum-building work in coming together as a unified organization, we became ready to not only provide our core suite of reliable services and support, but also identify new game-changing initiatives and rally around these efforts as a division. In the Spring of 2019, we asked our division to bring forward strategic, timely initiatives that are innovative and would bring a noticeable impact to the faculty, students and staff we serve. Our teams responded, suggesting over 40 proposals for future-leaning projects, of which we selected student affordability through open educational resources (OER) and digital accessibility.

As we embarked on these important efforts and maintained our commitment to service continuity, we supported the launch of a typical Spring 2020 semester. Just four weeks into the term, an unfathomable challenge emerged as the COVID-19 virus made its way into the United States and Nebraska. Our ITS staff were at leadership tables at each campus very early on, as administration recognized how much IT would be the go-to strategy to help the University of Nebraska weather the uncertain future. Our ITS teams pivoted, completely realigning our sole focus to be that of rapid digital transformation in support of the campuses’ needs to quickly change to remote teaching, learning and work practices.

We have never been more honored to serve the University of Nebraska, and the months that followed were amongst the most important in our ITS organization’s history. The “could we look at?” questions became next-week implementation plans, and the strong foundation we had built in ITS rose to the occasion, scaling our services smoothly and transitioning to a fully-remote NU.

**NU ITS BIG IDEA: AFFORDABILITY**

The cost of textbooks has become a major barrier for students, who now spend $1,200 annually to get the course materials they need. Many students report that they can no longer afford these pricey textbooks and they have stopped buying them altogether, which directly inhibits their ability to be successful in a class. Through the NU ITS effort to expand the use of open educational resources (OER) and campus bookstores’ inclusive first-day access programs via seamless integrations with Canvas, the learning management system, students are now able to pay less and get access to the course materials they need day one of a semester.

Our work to accelerate the adoption of OER was recognized in 2020 with an $84,000 grant from the Women Investing in Nebraska philanthropic organization, with a matching gift of $84,000 awarded from the NU Provost’s Office, bringing the total grant funding we received to $168,000. We will coordinate the distribution of these dollars across the Kearney, Lincoln, and Omaha campuses to faculty to recognize the time they spend re-developing their courses in order to utilize OER. We have big goals for our OER program, seeking to save NU students $10M by 2023.

"ITS has been open, imaginative, and flexible in its collaborations with the Libraries this year, and we are actively seeking ways to expand our partnership. I am thrilled that this has been a reciprocal process: as the Libraries look for ways to lean more heavily on ITS’ core services, we are also working together to design solutions that advance the University’s commitments to affordability, student success, and research excellence.”

-Claire Stewart
UNL Dean of Libraries
NU ITS is committed to digital accessibility. To advance this effort, we launched an NU ITS-facilitated IT Accessibility Lab in early 2020. The lab has helped to elevate the University’s IT accessibility maturity by 56% year-over-year, as measured by our peers through the Big 10 IT Accessibility Capability Maturity Model. This increase in maturity was advanced through our efforts to create a culture of accessibility through policy, procurement, assistive technology tool availability, web and user design, and training.

In addition, NU ITS is working on accessibility processes and initiatives around Digital Learning and eTextbooks. A defined and managed IT Accessibility program not only helps protect the university, but more importantly helps provide a more inclusive student experience and workplace across the NU System.

One of the most important systems and processes we support is the captioning of instructional video. Through a strategic, NU system-wide pilot and adoption of VidGrid, launched back in 2017, faculty can easily create and edit videos for their students, and add 99% accurate captions to these videos before they are placed in Canvas. This functionality is critical for all students enrolling in online, hybrid and face-to-face courses.

Over the past year, the Lab - with its nearly 100 collaborative University partners on all four campuses - has spearheaded a new policy related to IT Accessibility; refined procurement processes; and created partnerships with campus ADA offices, compliance, Academic Affairs and Student Success to proactively address issues and keep a look on the horizon for new trends in technology. Our work this year made major internal systems accessible to screen readers and has led to key usability re-designs on highly visible campus webpages. The pivot to remote work and remote learning in Spring 2020 meant the Lab was able to provide campuses with operational support in one of the most critical times for accommodations, technical support, and strategy.
As the campuses spent approximately six weeks preparing to shift to a fully-remote teaching and learning environment by the end of March 2020, our teams of NU ITS instructional technologists in our Academic Technology division were heavily relied upon to support faculty’s needs for digital teaching. From building support tools to redesigning accessible, flexible classrooms, NU ITS responded in 2020.

**KeepTeaching and KeepLearning Sites**

Many faculty members used the Canvas Learning Management System to assist in their instructional goals prior to COVID-19. However, when the campuses went fully remote, all faculty began utilizing the core suite of academic technology tools to deliver content and engage with students. As a result, academic technologists in NU ITS needed to identify strategies and build new resources to help all faculty get the help they need, 24 hours a day/7 days a week. Two of the key resources that emerged were KeepTeaching and KeepLearning sites on each campus. These resources were aimed at assisting faculty and students with accessing, using, and troubleshooting common issues with Canvas, Zoom, VidGrid, Respondus and Turnitin. The University of Nebraska took advantage of having these robust, cloud-based tools already implemented and interoperable with one another so that scaling up was possible when we needed to use them more than ever before.

**Wireless Hot Spots and Laptop Checkout**

NU ITS partnered with leadership on each campus to make laptops and mobile WiFi hotspot devices available for students to check out in order to keep up with remote learning course activities. Recognizing the digital divide that separates those with reliable access to technology from those without, NU ITS worked to maximize existing inventory and leverage existing contracts in order to reach as many students as possible. When more equipment was needed, campus leaders generously funded program expansion.

Our NU ITS help desks ran point with creating robust checkout programs in order to get this technology in students’ hands. This critical service was game-changing for NU students in 2020, allowing them to log into Canvas and other learning platforms, even when their households were not equipped with internet access or they did not have consistent access to a computer at home.
Drop-In Virtual Technology Support for Faculty and Students

The NU ITS Help Desk and Academic Technology teams began offering live drop-in tech support via Zoom in order to more closely mimic the on-campus services we offered prior to COVID-19.

Since March, at any point of the work day, a faculty member or student can join our Zoom room, where a technologist is standing by to assist with questions or concerns in real time. This service has been heavily utilized in 2020, as many faculty and students have and continue to teach and learn from home rather than from campus classrooms.

Funding for Enhancements in 394 Flexible, Accessible Classrooms

The Kearney, Lincoln and Omaha campuses each invested in renovating classrooms in order to maximize flexibility, accessibility and student/faculty safety. Our NU ITS teams scoped, planned, installed, tested, and continue to support new technology across the campuses that allows in-person instruction to occur in the classroom while also making the course available in real time to students deciding to attend remotely. As campuses reopened in Fall 2020 for face-to-face instruction, these spaces have allowed students who are quarantining or staying home to keep up with their courses.

“ITS has been incredibly supportive and more during the pandemic. The ITS team is not only fast at solving technical issues, but also very knowledgeable and patient. In recent months, I have needed assistance with DUO and Canvas. I received quality service and was impressed with the help desk and support services.”

-Martonia Gaskill, PhD
UNK Associate Professor of Teacher Education and Faculty Senate President
In order for staff members to begin working from home, a vast digital transformation effort was required in order to eliminate critical paper-based business processes, ensure staff could securely access critical data remotely, and allow office phones to be answered from off-campus locations. Our NU ITS teams were key partners in taking the NU workforce into remote operation through scaling our virtual private network (VPN), launching numerous eForms, deploying softphones, and implementing and supporting a robust digital compliance training tool.

The success of our students, faculty, and staff relies heavily on our ability to connect virtually with each other amid the COVID-19 pandemic. The NU ITS team continues to rise to every challenge and exceed every expectation so we can provide an exceptional experience for the communities we create, collaborate, and innovate with as a leading metropolitan institution.

-Jeffrey P. Gold, MD
UNO Chancellor

EFORMS KEEP BUSINESS MOVING

With the majority of staff members working from home, paper-based business processes became more of a challenge in 2020. The Nebraska Student Information System (NeSIS) team rose to the challenge and provided support to help keep University business moving digitally. NeSIS worked closely with the NU campuses to build additional electronic forms, or eForms, to accommodate remote business and streamline student transactions.

The NeSIS team especially came through for the University when, through eForms, they provided a mechanism for students on the Lincoln and Omaha campuses, as well as at Peru State College, to apply for CARES Act funding. These campuses used the NeSIS-developed eForm and Workflow tool to build, deploy and collect student applications for CARES Act funding. To date, more than 15,000 students have completed the application process. This was another example of the continued collaboration between NeSIS and campus partners to provide solutions to the unique and ever-changing challenges that are constantly arising.
Virtual Private Network (VPN) Expansion

When the University transitioned to a remote environment, NU ITS realized quickly the need for students, faculty and staff to be able to access critical and sensitive data remotely through the University’s Virtual Private Network (VPN). To ensure that all users could use the VPN without issue, NU ITS Infrastructure Services and Security Services teams worked together to rapidly scale up and expand the capacity of the VPN to maintain performance while handling a significant increase in traffic, all while ensuring that users did not notice any disruption in service. These teams have continued to closely monitor use of the VPN to ensure that it provides a quick and reliable connection for users during this critical period.

Bridge Compliance Training Tool

As the campuses returned for a Fall 2020 semester that included some face-to-face coursework, the need to quickly deliver student, faculty, and staff compliance training - in particular, COVID-19 training - was critical. To best meet this need, NU Compliance and NU Business & Finance partnered with NU ITS to implement a new learning management system designed specifically for training. NU ITS staff oversaw project management for the implementation, and continue to serve in a technical system administrator capacity to help load, publish, report and troubleshoot trainings for all four NU campuses. In 2020, a total of 21,871 trainings have been completed through Bridge. In 2021, NU ITS will add cybersecurity and phishing training for all NU students and employees.

Softphone Deployment

When nearly all University employees shifted to remote work mode in March 2020, NU ITS needed to rapidly respond to heightened need for softphone deployment and phone support. To meet this demand, NU ITS Infrastructure Services deployed 537 new softphones to users who needed phones to conduct University business from remote locations. In addition, with departments already dealing with the extra stress of rapidly transitioning to a remote environment, ITS covered the cost of these phones for nine months, ensuring that University business could continue without any additional financial burdens. NU ITS provided additional support in helping users connect with their campus phones through their personal cell phones or home phones. Faculty and staff were able to set up call-forwarding from their campus phones to home phones or check their campus voicemail when needed. NU ITS made instructions for these services available on its website, while also making support staff available to help with any phone-related questions.
As an ITS division serving the University of Nebraska, security is in everything we do. We are committed to ensuring that our users’ equipment, data and credentials are secure so that each individual can meet their teaching, learning, research, and workplace goals. We are continually seeking to increase adoption and expand utilization of best practices and common tools so as to minimize risk.

In addition, we operate with common sense and prudence, relentlessly focused on finding efficiencies and taking technology to scale whenever possible. Our bias for action has led us to not only successfully contribute to university-wide budget reduction targets, but also to saving NU departments money and time through coordinated contracts. We operate as a lean, prudent organization - one that continues to look for every opportunity to gain additional efficiency while still serving the NU community with outstanding, reliable, secure IT support and services.

**DUO Expands to Protect Additional Users**

The best way to mitigate attacks on weak or stolen passwords is through Two-Factor Authentication, making it critical for NU ITS to get all students, faculty and staff enrolled in DUO, the University’s tool for Two-Factor Authentication. By the end of October 2020, Two-Factor Authentication had been rolled out across the Kearney, Lincoln and Omaha campuses, plus Central Administration. The successful completion of this project was made possible through significant collaboration with ITS partners on each campus, including Chancellor’s leadership teams, Faculty Senates, Student Governments, and College and Department IT technicians.

**Endpoint Security**

With more University-owned technology being used away from the NU campuses, it is critical to prioritize the security of this equipment and minimize risk to the institution’s data and assets. NU ITS provides best practices and common platforms for all devices enrolled in ITS endpoint management. Patch management ensures that computers and laptops receive the latest security updates and the deployment of antivirus software helps protect users and data. NU ITS partners extensively on each campus to continually improve endpoint security and increase the extent to which common tools and standards are being leveraged, leading to a more secure NU.

---

Business and Finance values the strong partnership with ITS and the essential role they play in providing and supporting essential campus technology infrastructure and services. ITS also provides mission-critical expertise and leadership in the ever-evolving IT landscape necessary for our teams to succeed.

- Bill Nunez, PhD
  UNL Vice Chancellor
  Business and Finance

---

**100%**

OF NU USERS WITH DUO DEPLOYED IN FRONT OF KEY SERVICES

**82%**

INCREASE IN THE INSTALLATION OF CORTEX FOR MANAGED ENDPOINTS
NU ITS partnered with NU Business & Finance to launch two large request for proposals (RFP’s) in 2020 - one for a unified network and one for standard desktops and laptops.

At all NU campuses, current network equipment is aging and not homogenous, making it difficult to manage and secure. To address this, NU ITS negotiated a bulk purchase to upgrade all networking equipment at a reduced price across the university system. The network project involved extensive planning and coordination in 2020, setting the stage for the replacement of almost all existing network equipment and services - over 2,300 switches and 10,000 wireless access points in over 325 buildings.

In addition, NU ITS Client Services coordinated a RFP for standard employee laptops and desktops. Each time any unit across the NU environment buys equipment off of this negotiated list, they are realizing the benefit of this effort.

SAP Physical Hardware Transitions to VMWare

This year, NU ITS finished a years-long process of moving SAP physical hardware over to a virtual server through VMWare. Virtual servers are considered the most cost-effective option for hosting applications, as the hardware and maintenance costs are shared among all virtual server owners.

In addition to creating cost savings, moving SAP completely to VMWare has given NU ITS the ability to standardize and simplify work processes.

PRS Transitions to eShop

In Summer 2019, ITS transitioned the purchasing process from PRS to eSHOP, the University’s one-stop shopping eProcurement system.

By using Nebraska eSHOP, ITS has been able to purchase products at the best possible price, track spending, streamline the ordering process with electronic workflows, and provide our department with reporting and approval processes to help with budgeting, spend management and auditing.
NU ITS Supports the Launch of National Counterterrorism, Innovation, Technology and Education (NCITE) Center

NU ITS was honored to help support the virtual kick-off event for the 10-year, $36M grant-funded NCITE Center led by Dr. Gina Ligon. NU ITS worked directly with NCITE staff and Microsoft to update features, install necessary presentation tools, and enhance security requirements for the event, which brought together 13 projects and over 150 people over two days.

NU ITS continues to partner with the Center to operationalize the Information Protection Plan, ensuring that NU complies with stipulations that all research conducted under the award have publicly available, releasable results.

“I believe that crisis reveals character, and this one [launching NCITE virtually with 55 researchers across the consortium rather than in-person at the DHS Training Facility in Washington DC] demonstrated that Nebraska ITS is first in class.”

-Gina Ligon, PhD Professor of Collaboration Science, UNO College of Business and Director of NCITE
Sitecore Content Management System Transitions to Amazon Web Services

NU ITS teams worked to move the Sitecore Content Management System (CMS) and the sites it hosts to Amazon Web Services. This transition resulted in improved website performance and enhanced capability for Nebraska.edu, the institutes’ websites, the University of Nebraska Online High School website, and the NU ITS site.

Funnelback Implementation

NU ITS partnered with University Communications on the Omaha campus to bring web users an enhanced search experience through implementing Funnelback and integrating it with the UNO website. Now, prospective students are able to locate program information faster, and have the ability to create a short-list of programs to compare. Other external website visitors will be able to fine-tune their search and drill-down based on additional search facets. Website visitors from inside the university community can find directory, news and event information all within their respective tabs for a more streamlined user experience.

Network Nebraska

Since 2007, ITS has partnered with the State of Nebraska’s Office of the CIO to manage and support Nebraska’s statewide research and education network that serves as the Internet Service Provider for approximately 430,000 K-20 students throughout the state.

Network Nebraska has 293 members - including educators and learners at public schools, libraries, and Educational Service Units - and maintains over 100 Gbps of connectivity to local, regional and national networks. The organization is 100% member-funded, focused on reducing transport and internet costs, and improving the reliability and speed of services.

Network Nebraska currently offers one of the lowest per-unit costs for commodity Internet in the country with a 99.6% reduction in cost since 2007.

This year, 250 circuits were up for renewal and awarded, the largest of any year since the partnership began. Our NU ITS teams collaborated with Network Nebraska member sites across the state to activate, test, and turn-up the circuits between July 1 and early November.

“ I am very proud of all of the items Student Government has been able to collaborate with ITS on. ITS has proven to be dedicated, hardworking, and always two steps ahead. With all of the challenges 2020 has thrown at us, we have had the opportunity to see this department shine. ITS is a true champion for the NU community.”

-Jabin Moore
UNO Student Government President and Student Regent
Our Structure

Our organization and its leadership structure was intentionally designed to provide campus-specific customer support while maximizing behind-the-scenes operational efficiencies to leverage scale. This organizational structure includes five scaled services areas - Security, Infrastructure, Client Services, Enterprise Services, and IT Strategy. In addition, Communities of Practice in Academic Technology and Application Development were established with a presence on each campus to interact closely with faculty, students and staff for unique training, support and service delivery needs.

The OneIT Initiative

IT teams from UNK, UNL, UNO and Enterprise Systems came together in 2017 to form a unified ITS division aligning to the strategic needs of the University of Nebraska and each campus. The unified division works closely with UNMC on procurement and standardized technologies. In 2017-18, the new organization was tasked with combining our budgets and contributing a permanent $6M reduction as a part of the university-wide budget response process. We also have invested in our top priority of IT security, increasing our investment by $2.6M since the OneIT initiative began.

CELEBRATING
OUR DEDICATED NU ITS STAFF

315
TOTAL NU ITS STAFF MEMBERS

4232
COMBINED YEARS OF SERVICE

Launched OneIT Initiative
Formed New Organizational Structure
Published First Unified NU ITS Strategic Plan
Conducted First System-Wide ITS User Survey

March 2017
August 2017
September 2018
April 2019
The NU ITS Rick Fredericks Awards for Outstanding Collaboration

Phil Redfern, Endpoint Management Coordinator in NU ITS, was recognized for his tremendous collaboration, leadership, and energy in advancing and aligning endpoint and patch management across the University of Nebraska system.

The Canvas teams at UNK, UNO, UNL and UNMC - as well as the NeSIS teams and campus Registrars - were recognized for their collaboration in implementing the Canvas Final grade project, which pulls grades directly from the learning management system into PeopleSoft. This feature saves faculty considerable time.

The NU ITS Technology Excellence Award

Leona Barratt and Rick Murch-Shafer were recognized for providing excellent support for teaching and learning technologies on the Lincoln and Omaha campuses.

NU Board of Regents Kudos Awards

In July, ITS employees Matt Bolton, Nick Filipi, Kristy Kennedy, Corrie Svehla, Charles Swenseth, and Christopher Wolverton were recognized for their outstanding support of virtual Regents' meetings.

In October, Heidi Haussermann was also recognized for superior dedication and excellent customer service at UNK.
Serving our campus communities - A 2020 snapshot

Core enterprise solutions

1.1M enrollment transactions processed in PeopleSoft

1M business workflows processed in SAP

244M emails delivered

326M spam emails blocked

150 GBps of connectivity maintained

325 buildings with connectivity

195K email inboxes managed

2,300 network switches

10,000 wireless access points

NU Network
CUSTOMER SERVICE

100%
MONTHS OUR CUSTOMER SERVICE SURVEY HAS SURPASSED INDUSTRY-STANDARD OF 90% SATISFACTION

12%
INCREASE IN ITS MANAGED DEVICES

80%
DECREASE IN TICKET RESPONSE TIME SINCE SHIFTING TO REMOTE MODE IN MARCH 2020

5015
REMOTE DESKTOP SUPPORT SESSIONS

TEACHING AND LEARNING

1794%
INCREASE IN USE OF ZOOM

3.2M
MINUTES OF VIDEO IN VIDGRID

46,880
STUDENTS IN CANVAS

8.5M
CANVAS PARTICIPATIONS

629
CLASSROOMS AND LEARNING SPACES SUPPORTED

394
ZOOM-ENABLED CLASSROOMS RENOVATED IN 2020

SECURITY AND IDENTITY

197M
NETWORK THREATS BLOCKED DAILY

1.45M
IDENTITIES CREATED AND MANAGED

1500
AVERAGE CONCURRENT VPN USERS SINCE MARCH

96.4K
INDIVIDUALS USING DUO TWO-FACTOR AUTHENTICATION
ONE UNIVERSITY. FOUR CAMPUSES. ONE NEBRASKA.