



Table of Contents

2021-2023 STRATEGIC PLAN.....	1
MESSAGE FROM VICE-CHANCELLOR/CIO DARIN KING.....	1
ABOUT THE CTS STATEGIC PLAN.....	2
COVID-19 PANDEMIC.....	3
SECURITY FOCUS.....	3
PROTECTING PEOPLE.....	3
PROTECTING DATA.....	3
PROTECTING SYSTEMS.....	4
DETECT AND RESPOND.....	4
INFORMATION ACCESS	4
CLOUD?	5
EXPANDING SYSTEM FUNCTIONALITY.	5
DATA ACCESS	6
DATA GOVERNANCE	6
SERVICE SATISFACTION	7
COLLABORATION.	7
CULTIVATE OUTREACH SERVICES.	7
PROMOTE AND EXPAND EFFICIENCIES IN PROCESSES AND SERVICES	7
CULTURE	7
STAFF HIRES/RETENTION	8
COMMUNICATION.....	8
EMPLOYEE EMPOWERMENT AND ENGAGEMENT.....	8
LEADERSHIP.....	9
CONCLUSION/ACKNOWLEDGEMENTS	9
SUBCOMMITTEE MEMBERS:	9

2021-2023 Strategic Plan

Message from Vice-Chancellor/CIO Darin King



Dear Colleagues,

Core Technology Services (CTS) is the technical arm of the North Dakota University System with goals and objectives that align and support the strategic vision of the NDUS. During these times of rapid digitization, global pandemics, and enhanced customer expectations, it is critical that CTS has a clear strategic plan. This document identifies four key strategic objectives that will guide our activities in the short term while continuing to provide a solid technical foundation for the future.

Security continues to be a strategic objective and our focus will be on protecting people, data, and systems. It is critical that we continue to expand both our capability and capacity to provide protection of our key resources by expanding our ability to detect and respond to security incidents.

Ensuring effective and efficient access to information will be accomplished by continuous and thoughtful evaluation of our technical systems and solutions with an eye towards expansion of our capabilities and the services we can provide to NDUS institutions. This includes the continued adaptation towards a hybrid cloud NDUS datacenter that seamlessly integrates services regardless of where the technology is physically located. We will build an effective data governance process so that we can ensure information is accurate, comprehensive, and secure while being effectively accessed and used by NDUS institutions.

How effectively CTS serves NDUS institutions and stakeholders is a very important strategic objective. We will strive to continuously improve how we communicate, collaborate, and consult with campuses. We will engage consistently, listen carefully, and thoughtfully consider the needs of our stakeholders with the intent to deliver exceptional, efficient and effective services to all stakeholders.

To fulfill these strategic objectives, we need to focus on our most strategic asset at CTS, the staff that make up the CTS team. We are committed to hiring and retaining excellent team members, providing opportunities for them to grow and learn, and building leaders throughout the organization. This will require a continued emphasis on communication, collaboration, and a consistent effort to build the culture we desire. We aspire to a culture of teamwork, empowerment, competency, and achievement. This doesn't happen by accident and we are committed to our CTS team.

We look forward to the continued collaboration with stakeholders and strategic partners as we move forward with execute initiatives that align with our strategic objectives and support the goals of the North Dakota University System.

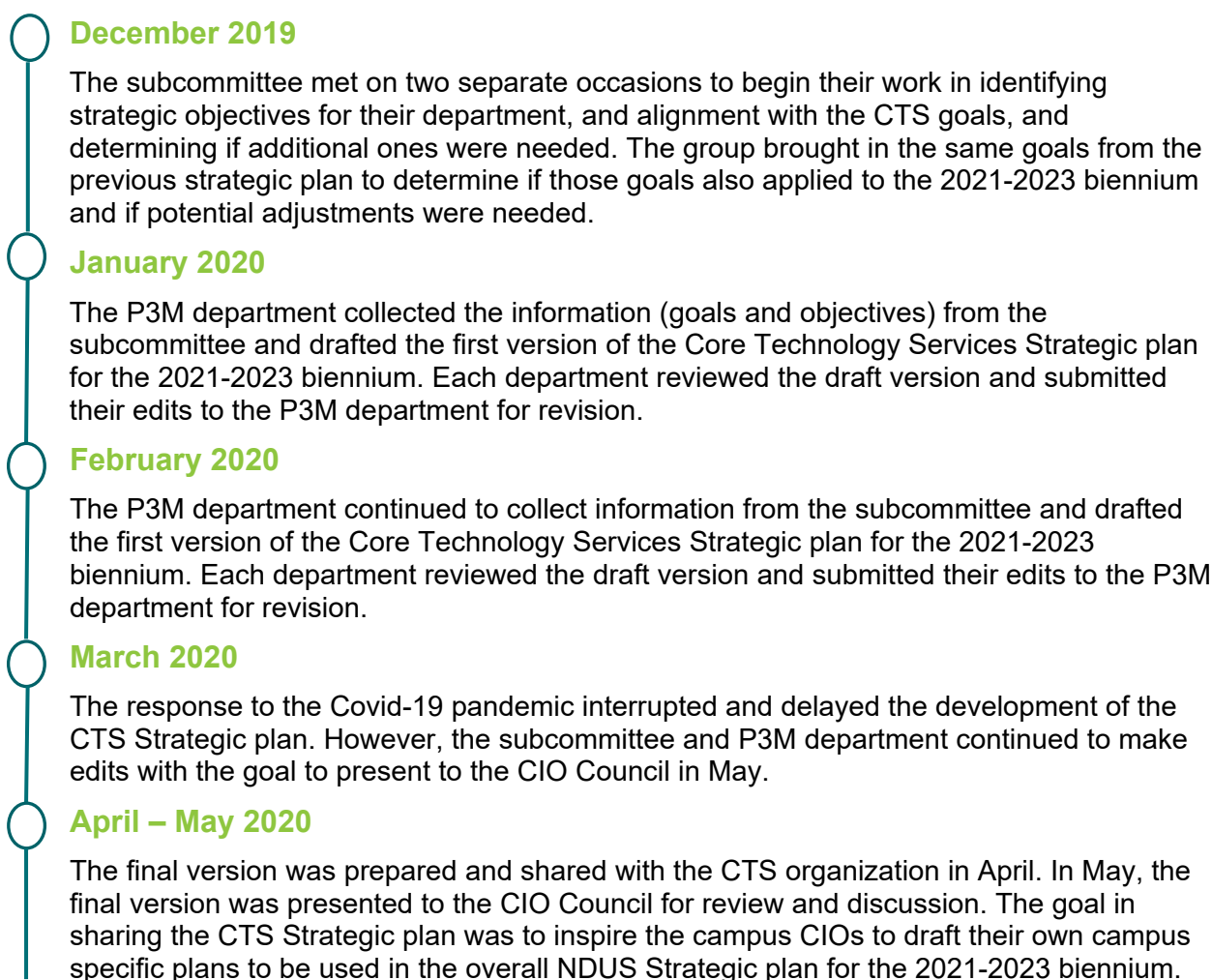
A handwritten signature in black ink, appearing to read 'Darin King', written in a cursive style.

About the CTS Strategic Plan

CTS's Strategic Plan provides direction and a set of defined goals critical to constant changes in our organization. It's not a rudimentary process, but one that is dynamic and open to modification as we proceed, progress, and observe changes in the higher education industry. The strategic objectives laid out in the plan are meant to guide our work, priorities, and inspire us to move forward in a direction alongside with growing opportunities. These strategic objectives align with the North Dakota University System's (NDUS) five goals:

1. Deliver degrees that are the best value in the nation.
2. Provide programs people want, where and when they need them.
3. Equip students for success.
4. Maximize the strengths of the unified system.
5. Research Excellence and Innovation.

It takes dedication, commitment, and time for an organization to put together a strategic plan. The timeline below describes how the plan came together.



Covid-19 Pandemic

The covid-19 global pandemic made it a difficult time to think about strategic plans. Our focus was distorted as the world changed overnight. The virus claiming victims. The global economy turning upside down. So many unknowns as we looked to the future. It was a technical challenge to finalize the Strategic plan as we entered the third month of social distancing, working from home in basements or spare bedrooms.

As society moves to the new normal, the effects of the pandemic are yet unknown. Higher education will certainly not be immune. How will the new norms affect teaching and learning? How might administrative and staffing functions change? What role will technology and innovation play in all this? Changes are likely to be profound simply because doors will be opened to new ideas; ideas that didn't fit the reality of the world prior to the pandemic.

And that's what makes this CTS Strategic plan so important. Regardless of the future of higher education in North Dakota – from teaching modalities to business operations – Core Technology Services will continue to provide enterprise IT services based on the four objectives of Security Focus, Information Access, Service Satisfaction, and Culture. These strategically placed objectives will provide the strength to withstand and persevere the times ahead.

Security Focus

Securing our people, systems, and data is a key strategic priority for the CTS organization. In the pursuit of information security, we are facing unprecedented challenges. Navigating the threat landscape by identifying and addressing potential security risks to our organization are critical components of our strategic plan. The NDUS is aligning with the National Institute of Standards and Technology (NIST) and Cybersecurity Framework as well as the Center for Internet Security (CIS) Controls as the foundation for our security planning. CTS strives to protect the confidentiality, integrity, and availability of information for all NDUS stakeholders, faculty, staff, and students regardless of physical location. Below are a few key areas we plan to focus on for the next biennium:

Protecting People. One of CTS's strategic objectives is to continue to provide Security Awareness and Training for staff, faculty, and students. It is often said you cannot secure what you do not understand. The CTS Information Security team currently conducts assessments to educate staff on how to identify and respond to phishing attacks. Also, CTS requires our staff to complete monthly security awareness training. CTS will continue to pursue opportunities for providing both security awareness and technical training for its staff and NDUS Institutions.



Protecting Data. CTS recognizes and understands protecting data is vital in the IT industry and the higher education community. Protecting data is not just about the technology, it encompasses business processes and policies and the involvement of stakeholders, ultimately affecting faculty, staff, and students. It requires our organization to keep up with regulations, standards, and compliance requirements that are constantly evolving. CTS continues to engage

with NDUS stakeholders to leverage tools, resources and services to protect the confidentiality and prevent the loss of data.

Protecting Systems. The ever-evolving threats to our applications and systems requires a continual evolution of the tools and techniques we use to address them. Being vigilant and having an overall strategy to prevent our systems from being compromised is a key component of our security strategy.

Strategic priority areas for CTS will include improving our capabilities to identify and remediate security vulnerabilities, implementing technology to protect our servers, endpoints, networks, applications, and improving our ability to secure identities and access to networks and systems.



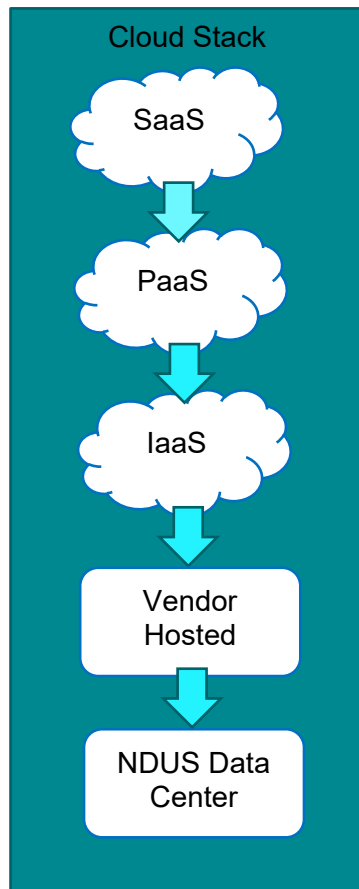
Detect and Respond. Even with the best security protections in place, CTS recognizes that adverse security events are inevitable. A strategic priority for CTS will be to develop capabilities to quickly detect these security events, and respond, and recover in a timely and effective manner. This will include initiatives such as creating a Security Operations Center (SOC), implementing automated detection and response technologies, and effectively collecting and securely storing log and event data to support these efforts.

Information Access

Data analysis has become a driving force behind institutional decisions in today's world. Providing fingertip access to data while sidestepping byzantine layers of systems and processes further maximizes productivity with enhanced intelligence and understanding. Because many dashboard analytics and reports are similar across the institutions, CTS and the campuses are working together on a data governance model that will make data readily available while mitigating security risks. Objectives for Information Access are as follows:

Cloud?

The CTS strategic perspective of “Cloud?” represents our intent to evaluate cloud solutions when making changes to existing on premises solutions or investigating new solutions. It doesn’t mean cloud only. CTS will continue to evaluate and select enterprise solutions that support strategic objectives, are cost effective and resource efficient. Cloud computing has the potential to reduce costs through increased operational efficiency, improve our flexibility to appropriately scale resources, provide robust disaster recovery capabilities, and support continuity of operations. Many current CTS systems leverage software as a service (SaaS) and vendor hosted environments that work in conjunction with other services housed in the NDUS data center. It is our intent to continue to develop a hybrid cloud environment that allows CTS to leverage the best solution available.



Expanding System Functionality.

CTS supports a wide range of academic applications and business systems, ranging from the student, finance, and human resources systems to learning management tools, collaborative technologies, and communication systems. As new needs arise and technology improvements emerge in the marketplace, CTS works collaboratively with the campuses in coupling nascent needs with promising solutions. The objective is to ensure the current systems provide the best available solutions to students, faculty, and staff.

Automation of technical and functional systems is an important aspect of expanding system functionality. The automation of technical systems to promote efficient provisioning and

management is critical to providing timely and appropriate services to stakeholders. Automation of functional systems, generally thought of as workflows, can increase the efficiency of daily operations for staff and other stakeholders. It is imperative as an organization we continue to expand our capability and capacity in the area of automation.

Campus Solutions (CS) is an Oracle PeopleSoft product and the selected Student Information System used by the 11 institutions within the North Dakota University System. Campus Solutions is also the student system of record for over 40 integrated and connected systems. Within Campus Solutions are defined modules to administer, track, and assist students in their post-secondary educations. Modules include Admissions, Financial Aid, Student Records, Student Finance and Campus Community.

Financial Management (FIN) is the system of record for the NDUS business operations. A wide array of modules provides the 11 institutions, System Office, and CTS the ability to reduce costs by automating and centralizing system-wide transactional processes. Fluid (mobile) UX is becoming widely available across the modules which allows users the ability to more easily access and manage their data on any device. CTS continues to explore opportunities to bring the NDUS into the digital era, which leads to gained efficiencies and allows the institutions to obtain valuable, timely data to help drive strategic decisions.

Human Capital Management (HCM) continues to deliver fluid capabilities for managers and employees for ease of data entry on any device. HCM also targets solutions that will increase campus efficiencies, with projects such as employment verifications and e-Forms.

Enterprise Services (ES) is the business unit responsible for the design, development, implementation, maintenance, and administration of enterprise-class information technology

solutions while providing IT leadership, vision, and planning for the NDUS. Enterprise Services is comprised of teams that are highly integrated to provide complete solutions to serve the needs of the NDUS constituents.

Infrastructure & Operations (I&O) is the business unit comprised of six sub-units:	
Database Administration	Endpoint Services
Data Center/Production Control	Network Services
Identity and Access Management	System Administration

The I&O unit strives to provide, sustain, and enhance a technology foundation that is cost effective, robust, reliable, and relevant to the NDUS. Our successes are directly attributable to our staff. These are action and detail oriented, committed, and passionate subject matter experts across many technologies.

I&O and the CTS organization recognizes the importance of having a Business Continuity/Disaster Recovery plan in place. Disruptions can impact an organization of any size in any location. From weather, to power outages, or even virus outbreaks, CTS will maintain a Business Continuity/Disaster Recovery plan to ensure its operations can continue, no matter the disruption.

Known as ODIN, the Online Dakota Information Network provides library management services for 58 libraries across North Dakota including the 11 institutions of the NDUS. ODIN is completing the final steps of implementing two library management systems – one for higher education and a separate system for public and K-12 libraries. Each system is specifically designed to better serve its user community.



Data Access. Institutions and agencies are maximizing their resources to collect, analyze, and interpret data. CTS assists in this process by prioritizing the availability of sound data in all the NDUS systems and the state longitudinal data system.

It is important to continue collaborating with institutions and other state agencies, stay informed, and understand data needs so decisions can be made accurately and in a timely manner.

Data Governance. Collecting and analyzing data for institutions large and small is critical to making good quality, sound, and sometimes quick decisions. However, before institutions can begin to use the data, we need to ensure it is accurate, secured, comprehensive, and compliant.

CTS has created a data governance structure with a mission to create a valid and reliable Single Source of Record (SSOR). This SSOR will ensure that all NDUS data across all systems is 'certified' as accurate, and that it is secure and compliant to all state and FERPA privacy standards.



Service Satisfaction

Providing a supportive and service-oriented environment for the NDUS can have significant impacts on student experiences and success. Service Satisfaction is educating, training, collaborating, and providing the best customer services that is expected of us. It is our mission to collaborate with the NDUS stakeholders and empathize with their day to day challenges and struggles. Identifying how they feel and the struggles they face helps us understand their needs. The following are fundamental objectives in providing services to our stakeholders:

Collaboration. Fostering an environment that involves working closely with campuses opens opportunities for innovation and adaptability in an industry of rapid change. Listening to the needs of the NDUS stakeholders is critical to CTS's success, and internal collaboration is just as important to our organization's success.

Collaborating requires working outside of our comfort zone, by working together in tandem to grow and learn from each other. A cohesive cross-functional team is a great example that requires working together, creating a sense of ownership, empowerment, and enables the ability to make good sound decisions. These types of teams generate productivity, efficiencies, creativity, and overall satisfaction when it comes to working together.

Developing shared governance or building community practices in areas of procurement, project management, and supporting various system applications, can provide a tremendous amount of support and collaboration amongst stakeholders within the NDUS.



Cultivate Outreach Services.

CTS vision of outreach services consists of a continuous thriving partnership with the NDUS campuses and System Office to provide consolidation of services and build efficiencies. CTS focuses on providing resources when needed, to confidently commit portions of our time and expertise for outreach services such as procurement, project management, network, business analysis work, and much more.

Promote and Expand Efficiencies in Processes and Services.

frustration which impact services for CTS and our institutions. Working together within our organization and teaming up with institutions to drive down costs and build efficiencies will enable automation of processes which in turn will provide value. If we allow ourselves to step away from what is familiar and comfortable it opens the door for growth and exploring new ideas. We cannot allow ourselves to remain static in an environment that is constantly evolving. A continued partnership and collaboration with institutions is important over the next biennium.

Culture

Culture in an organization is the cornerstone to any workplace. Understanding workplace culture and ways for its improvement has numerous benefits. Culture is an environment that includes leadership styles, values, behaviors, attitudes, and interactions that all contribute to the workplace. Influencing positive workplace culture can be challenging but we recognize it is critical to the success of the organization. CTS strives to provide a working environment that encompasses all factors that impact the safety, health, and well-being of employees. CTS values

our employees and we aspire to offer a workplace culture where our employees feel recognized for the work they do and enjoy a positive social environment that encourages respect as well as fosters a sense of belonging and purpose. The following objectives will provide some direction to improving workplace culture and build on to its administration:

Staff Hires/Retention. The number one asset in an organization is its people. If it weren't for the people, the organization would not exist. Attracting and retaining talented, highly skilled employees to work for CTS to meet the needs of the NDUS can be challenging. Therefore, it is necessary to be flexible and creative in finding ways to attract talented individuals, support through professional development, and continual training. As newer generations are entering the workforce, they bring with them new behaviors, preferences, and expectations that our organization needs to consider if we want to attract them. CTS prides itself on utilizing a competitive market salary strategy and salary administration plan to attract and retain qualified employees.



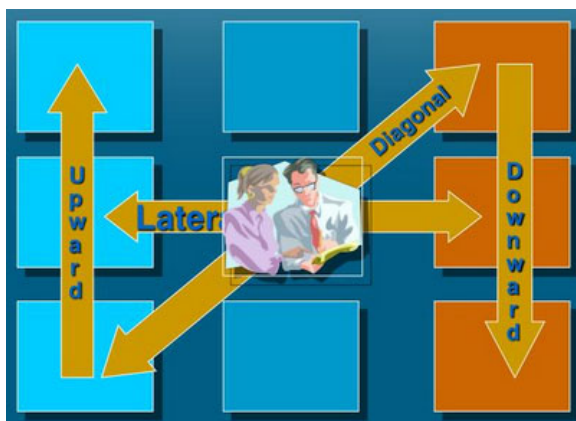
CTS continues to promote a culture that supports the North Dakota community IT workspace. Working with campuses and local high schools, CTS strives to meet the needs of North Dakota by providing internship and apprenticeship positions.

Retention is a high priority for our organization. Turnover is costly, and can impact employee morale, and can change the dynamics of the workplace culture. For CTS, we work to respect

our employees and value their input. A survey completed by employees offers an opportunity to express opinions, share experiences, and offer improvements.

Communication. This objective is an important and critical principal that pertains to CTS' culture and administration. Communication promotes transparency that builds interpersonal trust, which is essential when it comes to collaborating and working together. If you do not have trust within your organization, your department, and your employees, you have nothing. Communication is a multi-directional process that is always open for improvement. CTS will continue to create communication vehicles to promote the flow of communication including all staff monthly meetings, policy staff review and comment, and staff senator communication channels.

Listening with the intent to understand, and being fully engaged and not distracted is imperative to creating a positive environment. It shows employees are important; are being heard; and are valued.



Employee Empowerment and Engagement.

Allows employees the ability to make decisions, and take risks therefore, providing an opportunity for growth. CTS recognizes continuous improvements are needed to provide the ability to empower all employees. Empowerment provides a sense of worth, influence, engagement and self-satisfaction in one's work. All these elements can impact productivity and the services we provide to the NDUS.

CTS provides opportunities for employees to engage in activities that promote a positive and engaging culture (i.e. wellness, staff senate, social awareness events, promoting volunteerism). Employee recognition events are planned throughout the year and contribute to a positive culture and increased retention such as: monthly recognition at all staff meetings; annual staff recognition for employee service milestones; and special recognition for life change events including retirement.



Leadership. It is a behavior not a position that inspires and enables people to be their best and that fosters true understanding and focus on an organizations mission and vision. These leadership behaviors can be either a natural ability or can be learned. For instance, employees may lead by example, by having and sharing expertise, and by helping others. CTS has recognized investing in our employees to become leaders brings value to the organization and creates an overall positive cultural environment.

Part of leadership is creating a succession plan for all levels of the organization. Being well prepared when there is turnover provides continuity and shows a proactive approach to the stability of our organization.

Conclusion/Acknowledgements

This plan outlines a series of strategies that will drive CTS during the next biennium. Our focus on Security, Information Access, Service Satisfaction, and Culture, are designed to support our faculty, staff, students, and system office stakeholders. We will achieve these goals with outstanding teamwork, dedicated leadership, inspiration, and growing opportunities.

CTS expresses a deep appreciation and sincere gratitude to many individuals who have actively engaged and contributed to the strategic planning process. Through a two-day retreat, various meetings, and countless edits and revisions, these individuals were committed to shaping a plan that will provide a pathway of continued success for the organization.

Subcommittee Members:

Darin King – Vice-Chancellor of IT/CIO

Jerry Rostad - Assistant CIO of Academic Services & Communications

Jody French - Assistant CIO of Enterprise Services

Dirk Huggett - Assistant CIO of Administrative Services

Rick Anderson - Director of Infrastructure & Operations

Michelle Rakoczy - Associate Director of Infrastructure & Operations

Craig Cerkowniak - Associate Director of Infrastructure & Operations

Thomas McNaughton - Director of Campus Solutions

Deidre Muir - Assistant Director of Campus Solutions

Corey Quirk - Director of Enterprise Service Applications

Joseph Goplin - Assistant Director of Financial Services
Kelli Heisler - Assistant Director of Human Capital Management
Brad Miller - Director of Information Security
Jennifer Weber - Director of Institutional Data and Reporting
Jane Grinde - Director of Human Resources
Angela O'Leary - Lead Project Manager