CORE TECHNOLOGY SERVICES
STRATEGIC PLAN
2023 - 2025

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MESSAGE FROM VICE-CHANCELLOR/CIO DARIN KING

Dear Colleagues,

Core Technology Services (CTS) provides secure information management and technology services to the North Dakota University System (NDUS), links academic and business services within the NDUS community, and connects users to the information and educational resources needed to accomplish their goals. Our organization is committed to continuously improving our information technology processes and services; by regularly engaging with our stakeholders, we can align our support and service offerings to match their needs.

For the 2023-2025 biennium, CTS has identified three overarching goals and related strategic objectives that will guide our operational efforts. Each goal highlights an associated security-based objective to further define our organization's continued commitment to exploring and implementing technologies that expand our ability to detect and respond to security incidents and strengthen the protection of our people, systems, and data.

Delivering exceptional, dynamic, and vital services to the NDUS community has become a top priority for CTS. As our ServiceOne program matures, we will continue to engage consistently, listen carefully, and thoughtfully consider the needs of our Customers and Technology Partners.

As we look to expand the capabilities and services provided to NDUS institutions, ensuring effective, efficient, and secure access to information remains highly important to CTS. Through thoughtful evaluation of our technical systems and solutions, maturing our business intelligence and analytics capabilities, and continued adaptation towards a hybrid cloud NDUS datacenter, we can ensure information is accurate, comprehensive, and secure while being responsibly accessed and used by NDUS institutions.

To effectively achieve these goals, we must focus on our greatest asset — the staff who make up the CTS organization. We are committed to hiring and retaining quality team members, providing opportunities for professional growth and development, and investing in leadership throughout the organization. We aspire to build a culture of teamwork, empowerment, competency, and achievement through communication, collaboration, and continual improvement.

We look forward to maintaining our collaborative relationship with NDUS stakeholders as we execute initiatives that align with our strategic plan and support the goals of the North Dakota University System.

Darin King

ABOUT THE CTS STRATEGIC PLAN

The 2023-2025 Core Technology Services' (CTS) Strategic Plan identifies strategic goals and objectives, tied to identified areas of focus, that are essential for taking a proactive approach in response to the frequent changes that surround the organization. Each focus area is meant to guide the organization's work, relationships, and opportunities while keeping security at the forefront of operations. These efforts are dynamic, therefore open to modification as CTS observes shifts, addresses challenges, and realizes progress within higher education. This strategic plan aligns with the six goals of the North Dakota State Board of Higher Education:

- **Optimize student affordability while maintaining campus financial health**
- **Provide access to programs people want, where and when they need them**
- **Prepare students for success**
- **Maximize the strengths of the unified system**
- **Research Excellence and Innovation**
- **Workforce Development**

Prior to establishing strategic objectives for the new biennium, the CTS Leadership Team evaluated the organization's existing mission statement drafted in 2015 and produced an updated version to simplify and clarify its business purpose. To support this mission, the team defined a vision statement that reveals a common goal and direction intended to inspire and motivate CTS employees over the next several years. It is this vision that became the catalyst for the 2023-2025 CTS Strategic Plan.

CTS MISSION STATEMENT

To provide trusted technical and professional services to support the strategic goals of the North Dakota State Board of Higher Education.

CTS VISION STATEMENT

To foster an organizational culture that delivers exceptional service, secure infrastructure, and access to information.

WORKPLACE CULTURE

Culture is defined as a *way of life*; it is the sum of attitudes, ideas, knowledge, experiences, and beliefs that distinguishes one group of people from another. In the workplace, culture becomes a key factor in shaping the methods by which a business grows and operates through leadership styles, behavior, and interactions. Having a positive organizational culture can attract talent, drive engagement and retention, increase happiness and satisfaction, and improve performance. Influencing positive workplace culture can be challenging, but it is recognized as being critical to the success of the organization. CTS strives to provide a working environment that favorably impacts the safety, health, and well-being of employees and where staff feel respected and recognized for the work they do. The following areas of focus and related strategic objectives will guide CTS in a direction toward improving and enhancing workplace culture.

STAFF HIRES & RETENTION

CTS's recruitment goal is to attract and retain well-qualified staff who can best contribute to the mission and vision of the organization. It is recognized that today's workforce is changing rapidly, and the organization must be open to meeting the expectations of new candidates and current employees. CTS offers flexible work schedules to promote work-life balance and extends variable work options, including hybrid or telework arrangements, to meet increasing demand. A highly remote workplace culture presents new challenges; training and development opportunities, along with professional standards, are provided to promote a more collaborative virtual environment.

CTS offers work-based learning programs through internships and apprenticeships. Student interns and apprentices assist the organization by filling positions that have been difficult to recruit and hire, increasing job satisfaction for departmental staff who help mentor these new IT professionals. CTS has been successful in maintaining a strong internal workforce by hiring interns and apprentices into full-time positions upon graduation.

Retention is a high priority for the organization; turnover is costly and can negatively impact employee morale, effectively changing the dynamics of the workplace culture. CTS works to respect its employees and values their input. One method used to obtain feedback is through a satisfaction survey completed by employees, which offers an opportunity to express opinions, share experiences, and suggest improvements. Leadership frequently engages with staff to ensure that their feedback and opinions are heard.

CTS leadership works collaboratively to sustain a competitive market salary strategy and an administration plan to attract and retain qualified staff. Future strategies will include inflationary salary research, an emphasis on total rewards, and working with the state legislature to advocate for staff compensation as related to current economic trends.

COMMUNICATION

Effective communication in the workplace is key to boosting employee morale, engagement, productivity, and satisfaction, and lays the foundation for successful collaboration amongst organizational teams. Communication is also important for building relationships with stakeholders. Since the pandemic, communication has changed significantly for CTS, both internally and externally. Due to the varied working arrangements of employees, face-to-face interaction has become less common; instead, there has been a greater reliance on instant messages (IMs), virtual calls and meetings, and other tools to communicate with others.

While necessary, these changes can impact the way people approach communication with others and the level of urgency perceived by employees and the stakeholders served by the organization. IMs are considered less formal than email, but the sender may expect an immediate response. Alternatively, those receiving an IM may feel a sense of urgency to reply quickly, which can interrupt work or lead to multitasking and further distractions. Virtual calls and meetings can feel impersonal, especially when cameras are turned off, resulting in reduced participation and input.

Organizational Change Management (OCM), one of the ITIL practices recently implemented by CTS, will help guide the organization toward more effective methods of maintaining connections through feedback, training, professional development, and mentoring.

EMPLOYEE EMPOWERMENT & ENGAGEMENT

CTS supports internal recruitment procedures that provide professional growth opportunities for current employees. Through a staff externship program, employees can spend time working in other CTS departments to learn new skills, enhance their current job function, or gain knowledge and experience for a different role they may be considering within the organization. A focus on well-trained staff will expand by exploring opportunities to develop mentorships and virtual engagement groups for new employees.

LEADERSHIP

CTS is committed to developing and investing in leadership throughout all levels of the organization by providing professional development and mentoring opportunities. Effective leadership can improve productivity, increase motivation, and strengthen morale and confidence for all employees.

CONTINUAL IMPROVEMENT

Continual improvement is the ongoing effort of making incremental adjustments to an organization's processes and services, aiming to align with shifting business needs. Whether large or small, CTS seeks to incorporate positive changes that will provide greater value to its mission and vision through professional development, training, feedback, and analysis. CTS leadership emphasizes that providing consistent processes and services, allowing flexibility when appropriate, and ensuring accountability is vitally important to the success of and support for its Customers, Technology Partners, users, and workplace culture.

Consistency is the maintenance of regular patterns or the quality of always behaving or performing in a similar manner; it is essential when defining and executing processes and procedures. By implementing standards and best practices, errors are reduced, risks are mitigated, and desired outcomes are more often achieved. In addition, consistency allows for the ability to create measures to inform data-driven decisions.

Flexibility is the ability to change or compromise. Flexibility is important, as each situation can be different with a set of unique needs. CTS is respectful of these differences; therefore, while working within the organization's standardized processes and procedures, adjustments may need to be considered to meet the needs of its stakeholders.

Accountability is the obligation or willingness to accept responsibility for a particular action. As a professional organization, CTS holds itself accountable for the services provided to its Customers, Users, and Technology Partners and for the support, promotion, and prioritization of the culture that it values. Supervisors are responsible for ensuring staff are holding themselves to the right level of accountability by setting expectations and goals, providing ongoing feedback, coaching, mentoring, and conducting performance evaluations. While accountability is essential for continual improvement, it is important to remember that CTS also values flexibility in its effort to meet the needs of the organization and its stakeholders.

> Consistency is built when customers see a usual, expected approach.
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> Flexibility emerges when there's a change to that approach in response to a situation or an individual need.
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> Accountability ensures that standardized processes are being followed.

SECURITY FOCUS - PROTECTING PEOPLE

CTS is committed to creating a cybersecurity-focused culture where every employee keeps security practices and behaviors at the forefront of everything they do. CTS seeks to engage and empower employees to be active participants in securing the systems and data that have been entrusted to the organization by the NDUS. This will be accomplished, in part, through continued efforts to provide employees and NDUS institutions cybersecurity training, security awareness activities, and the necessary security tools and technology.

SERVICE SATISFACTION

Providing a secure, supportive, service-oriented environment can have significant impacts on the success and overall user experience for CTS's Customers and Technology Partners. Service satisfaction can be increased by providing user-focused education and training, actively collaborating and positively interacting with those who are served, and resolving issues and security concerns in a timely manner. It is important for CTS to regularly communicate with stakeholders to better understand their needs and challenges and to respond by making continuous improvements to service offerings.

SERVICEONE

To improve communication and consistency between Core Technology Services and the NDUS institutions, CTS has begun to implement a series of nine Information Technology Service Management (ITSM) practices collectively known as the program ServiceOne. Successful utilization of these practices will result in the ability to deliver and support IT products and services more consistently and efficiently to better serve the NDUS. While the main focus of ServiceOne is process standardization, CTS is partnering with the NDUS institutions to deliver a more customized approach to effectively address their evolving needs. As of the end of 2022, five ServiceOne practices have been formally implemented: Organizational Change Management, Relationship Management, Problem Management, Incident Management, and Service Desk.

Organizational Change Management (OCM) is the practice of transitioning people through change by managing its effects through communication, training, and understanding their readiness level for that change. This practice ensures the changes in an organization are smoothly and successfully adopted and sustained by those who are impacted, so that forecasted organizational benefits of the change are achieved. OCM will be incorporated into the implementation of each ServiceOne practice for the duration of the program and will become an integral part of future CTS projects.

Relationship Management establishes and nurtures the links between the organization and its stakeholders at strategic and tactical levels. It includes the identification, analysis, monitoring, and continual improvement of relationships between stakeholders. Implementation of this practice has resulted in more conversations between CTS and the institutions by way of structured communication channels, including Town Hall forums and liaisons, which provide opportunities to share information and gather input in effort to strengthen working relationships within the NDUS.

Problem Management includes the analyzing and determining the root cause of one or more incidents (unplanned outages), managing known errors and workarounds, and facilitating the identification of a permanent, cost-effective solution. Effective Problem Management will result in increased availability of CTS' products, systems, and services, elevated productivity of CTS personnel, and a strengthened technology infrastructure.

Incident Management is a series of steps taken to identify, analyze, and resolve incidents to minimize the impact of unplanned outages on business operations and maintain quality by restoring normal operations as quickly as possible. This methodology will result in increased availability of CTS' products, systems, and services, leading to increased user satisfaction.

Service Desk provides a single point of contact for NDUS personnel to report incidents and submit service requests related to systemwide applications and services. This practice includes the development and implementation of a sustainable Service Desk methodology to improve customer service and to ensure incidents and service requests are properly prioritized and categorized to provide accurate reporting.

Additional ServiceOne practices to be launched by CTS include Service Request Management, Change Enablement, and Service Level Management. Early implementation efforts for these practices are underway and involve focus groups comprised of NDUS campus staff who provide feedback on current processes and proposed changes to those processes. The changes introduced in these practices will show immediate benefit to campuses and CTS staff. As each practice is implemented, the focus will be on long-term sustainment and customer service. KPIs and metrics are agreed upon at the start of each practice implementation and will be used to measure progress and success.

Having the ability to detect security events and respond in a timely and effective manner is a top strategic priority for CTS. Continuing to grow staff and mature the NDUS Security Operations Center (SOC) is a key initiative for developing this capability. Other security service initiatives include implementing automated detection and response technologies and developing the capability to collect and securely store critical security logs and event data from CTS and the NDUS institutions.

INFORMATION ACCESS

Out of necessity to remain agile and do more with less, many educational institutions are making significant adjustments to their business and operating models. The need to adapt and change quickly requires immediate access to information to make data-informed business decisions.

With a greater reliance on data comes the need for true data governance. Implementation of defined standards, procedures, and best practices for handling data ensures an organization's most important asset is secured, trustworthy, documented, managed, and audited effectively. A strong data governance can lead to improved data quality, minimized risks, and reduced operational costs.

Continuous evolution and modernization of technologies can provide elevated functionality to systems already in place and help drive digital transformation of an organization. Advancements such as process automation can result in potential cost-savings through increased operational productivity, allowing for greater focus on the student, faculty and staff experience. A hybrid cloud ecosystem allows for seamless movement of applications and data between on-premises and the cloud, expedites access to new data, and provides increased storage capacity for high data growth.

DATA GOVERNANCE

CTS established the NDUS Information and Data Governance (IDEG) to develop, implement, and oversee enterprise-level information and data management and reporting standards, best practices, and repeatable processes. In addition, the IDEG provides expert advice and support concerning data quality, usage, ownership, protection, privacy, classification, and retention across the University System. The governing body comprises representatives from CTS, the System Office, and NDUS institutions to provide guidance for review and alignment of resources and priorities, inform relevant stakeholders of changes introduced and/or implemented by the IDEG, and model and promote ethical use of data.

To ensure a sustainable framework to mature the NDUS's BI capabilities, including enablement of self-service Business Intelligence (BI) reporting and analysis for CTS and the NDUS institutions, the IDEG is working to identify and address the University System's operational gaps surrounding BI and data management at the enterprise level. Strategic initiatives include exploring cost-effective, modern technologies to expand appropriate access to curated and trusted data, promoting the education and use of existing BI development and analytical tools, and evolving the NDUS enterprise data and analytics ecosystem to prepare for advanced technologies such as machine learning and artificial intelligence.

EXPANDING SYSTEM FUNCTIONALITY

CTS supports a wide range of academic and business technologies, including student, finance, and human resources systems, learning management applications, and collaboration and communication tools. As new requirements arise and technological improvements emerge in the marketplace, CTS works collaboratively with the NDUS institutions to connect impending needs with promising solutions. The overall objective is to ensure the current systems provide the best available functionality to effectively serve students, faculty, and staff.


Automation capabilities are important when considering expansion of system functionality. The automation of technical systems to promote efficient provisioning and management is critical in 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 to stay informed on the advancements made in automation and continue to modernize and expand the capabilities of NDUS systems and applications.

CTS provides the option for institutions to utilize the robust private cloud in the NDUS Data Center, at a cost-effective rate, as an opportunity for additional functionality and consolidation. This modern and sophisticated facility is built to Tier III specifications and monitored 24 hours a day, seven days a week. Within the Data Center is a hyper-converged compute and network environment available to the NDUS. This enterprise-level infrastructure offers exceptional performance, ease of management, native security, and low operational costs. All systems, service offerings, and applications must comply with enterprise standards to ensure agility and reliability when fulfilling the NDUS's IT strategic goals.

HYBRID CLOUD

CTS continues to be cloud-opportunistic while striving towards a true hybrid cloud archetype. New and existing services and applications are continually analyzed to determine where each may best fit with respect to cloud offerings. The primary drivers for utilizing cloud services include new or enhanced features, business continuity/disaster recovery, and potential cost-savings. This analysis is done through careful examination of the following areas: data involved, security and compliance requirements, availability and reliability requirements, infrastructure, skills and roles of CTS personnel, and required and desired integrations. If there are no impediments discovered within these areas, a systematic approach is used for the cloud transition. While our existing NDUS private cloud is integrated with the public cloud, CTS aims to seamlessly shift between the two as warranted, which is the defining characteristic of a true hybrid cloud environment.
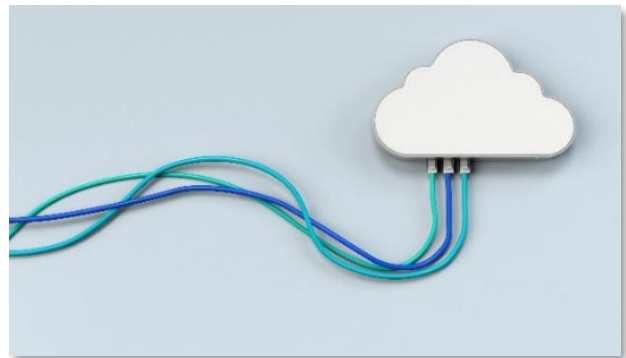
SECURITY FOCUS - PROTECTING DATA & SYSTEMS

CTS recognizes that protecting data, systems, and applications from ever evolving and increasing threats must remain a vital component of our strategic plan. This includes initiatives to protect against sophisticated email-based attacks, implementing data classification, protection, and loss prevention technologies, identifying and addressing vulnerabilities, and securing accounts and passwords, with a focus on protecting accounts with privileged access. CTS also places a priority on conducting risk management, security assessment, and penetration testing activities.

CONCLUSION

With a focus on three major areas, Workplace Culture, Service Satisfaction, and Information Access, this CTS Strategic Plan outlines a series of strategies designed to support students, faculty, staff, and System Office stakeholders. Feedback provided by Customers and Technology Partners will serve as inspiration to further define the goals and objectives that CTS will strive to achieve throughout the 2023-2025 biennium.

CTS is committed to recruiting and retaining a talented, qualified workforce to deliver consistent, high-quality systems and services to the NDUS community. By engaging and empowering staff to help drive organizational efforts, CTS can achieve its goals through exceptional teamwork, dedicated leadership, ongoing inspiration, and growing opportunities.