U-M MISSION
The mission of the University of Michigan is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving and applying knowledge, art and academic values, and in developing leaders and citizens who will challenge the present and enrich the future.

U-M IT VISION
Technology empowers the leaders and best. We enrich the U-M experience with technology that inspires all people to do amazing things.

IT GUIDING PRINCIPLES
The following principles guide the pursuit of the strategy:

- Technology will support and encourage learning, research, and interdisciplinary collaboration.
- Systems will make their data available for other processes whenever possible, while respecting limits required for personal privacy, regulatory compliance, and IT security and accessibility.
- Technology choices will favor solutions offered as external cloud services.
- Services will consist of all elements required for the adoption and best use of the service, including training, support, appropriate funding, and accessibility for all.
- IT providers will work together to limit redundant or outdated services so that investments can be redirected toward new technology service needs.
An environment where information is easily leveraged to strengthen U-M’s leadership in collaborative research and learning, with appropriate levels of security and privacy

The continued growth of data-based research, learning analytics, and interdisciplinary collaboration requires data to be more available and accessible. At the same time, security, privacy, and regulatory compliance are critical and increasingly difficult to achieve. U-M will be a global leader in creating an environment that balances these often competing needs.

A U-M-wide unified research computing and data science ecosystem to accelerate the pace of research and innovation, cultivate interdisciplinary and inter-university collaboration, and drive economic development

U-M will spur growth in the computational and data sciences by creating a unified university-wide research IT ecosystem that enables cost-effective and at-scale provisioning of on-premise and cloud-based computing, storage, networking, and visualization services and tools. U-M will engage its University Research Corridor partners and other Michigan universities to promote these infrastructures as drivers for statewide economic and urban development.

The university as a learning laboratory geared towards discovery and positioned to change how the world teaches and learns

U-M will support an experience unmatched at any other university by capturing information about the university environment and using this information to advance research in the learning sciences. The learning laboratory will support the development of new applications and innovations in teaching and learning. Application areas go well beyond the university classroom, to include diverse collaborations in industry and government such as K-12 education, transportation, health, social sciences and international partnerships. The full experience of the student will be personalized to each individual, both inside and outside the classroom, increasing access, affordability, and inclusion.

TBD GOAL

This is a placeholder for a new goal related to CLINICAL CARE. Coming soon!

An environment with minimal administrative burden for mission related work

Increasing compliance requirements combined with complex business processes consume time and resources that would be better directed to teaching students, conducting research, or providing healthcare. U-M IT will take an end-to-end approach to service design and development to eliminate waste and apply technology that makes administrative processes and adherence to compliance requirements less burdensome.
U-M IT STRATEGIC INITIATIVES

The following list contains the most important initiatives needed to achieve the strategic goals. These initiatives are not strictly ordered, but those at the top are generally higher priority than those at the bottom. The lettered tactics are shorter term projects and may change over time.

1. **Implement a simplified and consistent cost and funding model for services.**

   Fewer and more consistent funding models that work within the constraints of unit budgets and grants, incentivize adoption and retirement of services, provide transparency to costs, and support interdisciplinary work are crucial to supporting the goals in this strategic plan.

   a. Create and adopt a consistent decision framework and simpler funding models to guide funding decisions for existing and new services.

   b. Create the ability to procure subscription-based services aligned to the frequency and speed at which new services enter the technology market.

   c. Utilize advisory groups composed of members from throughout campus to recommend, and advocate for, appropriate service investment management decisions, such as subsidization and retirement.

2. **Move to a single identity access management (IAM) platform.**

   Adopting one strategy and a central, integrated system will simplify the user experience, increase the ability to share data, and help avoid barriers, such as the need for users to manage an unwieldy number of security tokens and passwords. It will also reduce overall cost and strengthen U-M’s identity and assurance postures.

   a. Establish a single, university-wide governance structure to set direction, provide guidance, and make strategic IAM process decisions.

   b. Establish a central program office to manage the IAM roadmap, establish metrics, coordinate projects, and communicate program status.

   c. Enable role-based access control for the entire university.

   d. Improve the onboarding and offboarding experience for employees and nonemployees by optimizing existing processes and systems.

3. **Condense the current network infrastructures into two unified infrastructures for all U-M campuses and the immediate area.**

   One data network will provide for all academic, research, clinical and administrative needs. A radio frequency (RF) network will provide for emergency and redundancy needs. Other existing network infrastructures will be eliminated. This will offer consistent security and performance no matter where the user is, fostering innovative research, teaching, and health care within the U-M community. It will also simplify joint projects, decrease overall network cost, and enable service in more locations.

   a. Create a unified network infrastructure for data and information needs common to all users as well as specific needs for regulated environments.

   b. Create a unified RF network. This will provide a robust wireless network to meet emergency and backup network needs, including radio support for first responders and cellular services for the entire community. This network will be completely separate from the data network.

   c. Remove other existing network infrastructures. Transition both the legacy telephone service and cable TV content to the data network.

   d. Promote possible partnerships to bring fiber connectivity to the Ann Arbor community.

4. **Create a unified, proactive strategy to address the most serious threats to the university for information assurance, and security, privacy, and compliance.**

   A single, unified strategy will enable university success and ensure appropriate access to data, no matter who uses it or where it is processed or stored.
a. Make it easier to keep sensitive information secure and meet compliance requirements by providing guidelines, tools, and services to the entire community, based on data or system sensitivity, not unit.

b. Create security enclaves for the most sensitive data by focusing resources and control to proactively mitigate the most damaging threats in a way that provides both security and recovery.

c. Consolidate physical servers throughout campus into the MiServer and MiDatabase virtual services.

d. Encourage collaboration between faculty and IT to contribute to this initiative. Support research with data, pilots, and seed funding.

5. Investigate using computing and big data analytics as a driver for economic development throughout the state of Michigan.

Investment in regional research collaboration, with public and private stakeholders, will drive the economy by creating opportunities that attract and retain top researchers, academic leaders and students. This will increase U-M’s research capacity and position U-M as a leader in the emerging world of interconnected and sensor-rich environments.

a. Open and advance conversations with the state of Michigan and other higher education partners to develop a strategy for advancing the State as a national hub for computational and data science innovation.

b. Seek the development of an “open cloud infrastructure” that enables universities, government, and the business community to conduct collaborative research through sharing computational and data analytics technologies.

6. Provide a unified U-M research computing and data environment to enable collaboration and innovation.

By bridging the “health to campus” research computing and data divide, U-M will accelerate the development of cross-campus and cross-agency interdisciplinary research initiatives, attract nationally recognized leaders in computational and data science, and realize a return on investment in computational and data science exceeding our peers.

a. Coordinate and expand the research support community across the university, providing support that goes beyond narrow technical issues and complements domain-specific expertise with knowledge of best practices and available resources.

b. Transform areas that provide technology support for research into a unified, national leader in research computing, supporting a full-university research infrastructure.

c. Coordinate with the initiative #1 above (funding model) to ensure research services are compatible with researcher funding.

d. Create useful and intuitive workflows, along with supporting technology, that cover the life cycle of research data from creation to publication and preservation.

7. Provide a common data access service that the entire university can use for learning, research, and medical analytics.

This infrastructure, along with supporting tools and training, is needed for U-M to continue to be a leader in personalized learning at scale and transforming decision support in the teaching and learning domain. A common data access interface will increase research efficiency and encourage innovation and experimentation by allowing users to get to the data they need, yet ensure that access is done in a safe and secure fashion. Information collected via sensors and smart objects throughout campus will benefit various forms of research, the student experience, faculty/staff engagement, health care, and the U-M community and society at large.

a. Implement a university-wide common data interface (middleware) service.

b. Capture information from sensors and other computing devices embedded across the Ann Arbor campus and the city, building in appropriate privacy and approvals.

c. Create learning and patient record stores that are central clearinghouses to store and retrieve common data used for learning and patient analytics.

d. Scale departmental tools and interfaces for learning analytics so they are available for use by the entire university.
8. Continue to be a leader in learning analytics and content management, both at U-M and through the Unizin consortium.

U-M’s engagement in the development of the Unizin digital learning ecosystem is predicated on a strategy of leveraging shared content and data at the combined scale of many universities, while maintaining ownership of U-M learning content and data. As a founding member of Unizin, U-M is collaborating with other research institutions to build and influence the evolving digital learning landscape of higher education. With 11 large public research universities operating on the same set of services, U-M has the opportunity to create the world’s largest learning laboratory.

a. Evaluate, and where appropriate, implement services as they become available from Unizin and meet institutional needs (e.g., Canvas Learning Management System, Unizin Content Relay, Unizin Analytics Relay).

b. Build on the partnership between Information and Technology Services (ITS), Library, Center for Research on Learning and Teaching (CRLT), and Digital Education & Innovation (DEI) to rapidly move teaching innovation from creation to scale.

c. Improve equity, inclusion, and retention for the university community by applying data analytics and customer relations systems to personalize learning at scale.

d. Use data analytics to build the case on the value of diversity for campus, the local community, and the broader society.

9. Aggressively streamline the administrative systems in order to reduce administration and compliance burden on users.

This initiative will increase the amount of time people in the U-M community spend working on their mission and improve the user experience when using technology. It will also help prepare the systems for an eventual move to a cloud-based provider, which will reduce the total cost of ownership, and expand the capacity for value-added initiatives to further the university’s mission.

a. Optimize and standardize current end-to-end business processes to use industry best practices that are provided by our administration systems.

b. Standardize management reports for university units, in order to increase consistency in reporting while decreasing the total number of reports.

c. Review current administrative system customizations and remove or streamline changes that are unused or increase complexity for users.

d. Eliminate shadow and supplemental administrative systems and reports when it is possible to combine multiple systems into a common solution.

10. Nurture a university-wide IT community that delivers services and solutions in partnership, as a single team, regardless of organizational lines.

Many initiatives in this strategy require IT cooperation across the university. A collaborative IT community that crosses the organizational boundaries, and has a diverse set of viewpoints, will provide consistently timely and effective support to faculty, students, and staff, in order to improve their productivity and retention.

a. Demonstrate cooperation among many units by successfully implementing complex, multi-unit services.

b. Continue to build the Michigan IT community in order to improve innovation, collaboration, diversity, and inclusion through initiatives such as ongoing communities of practices, an annual Michigan IT Symposium, Hackathons, mentoring and coaching, and university-wide awards and recognition.

c. Identify and implement a common service and support philosophy, including the use of IT management tools and processes where it will improve the service and support experience for faculty, students, and staff.

d. Build common leadership language, strengths and a culture of inclusion by investing in a continuing leadership development program and ongoing activities that bring IT leaders at all levels together.

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