

UMB Information Technology Goals
Alignment with the UMB Strategic Plan, 2022-2026
Status Report

Goal: Reduce the server hardware and data storage equipment footprint on campus to achieve cost savings, efficiencies, and benefits associated with cloud-based technologies.

Status:

- CITS migrated another 85 servers in FY 2023 and will be migrating another 66 servers in FY 2024, reducing the number of on-campus servers by 281 (57%) since inception of the Cloud-first approach.
- The School of Medicine Office of Information Services has also focused on migrating servers to the Cloud. In 2022-2023, the SOM IS provisioned all new servers in the Cloud, with now having 112 servers on-premises and 134 servers hosted in Microsoft Azure.
- CITS and the SOM, potentially other UMB Schools/Depts., are actively combining and consolidating the remaining on-premises server infrastructure that will temporarily or possibly permanently remain on-campus for systems that are not “Cloud ready”. This new shared environment began should be fully operational by December 2023.

Goal: Leverage Microsoft’s computing infrastructure to develop and implement Azure Virtual Desktop (AVD).

Status:

- The Azure Virtual Desktop project items that have been completed or will be completed by end of this month (June 2023) include:
 - Deployed a high-speed Internet ExpressRoute to establish dedicated, high-speed connectivity between UMB and the Microsoft’s Azure Cloud infrastructure. This high-speed express route network will be available for use by all UMB schools and departments.
 - Developed an AVD infrastructure framework with help from Microsoft engineers that supports UMB needs and serves as a template to speed the deployment of AVD.
 - Acquired and completed the installation and setup of an AVD management system to automate tasks, provide expanded insights for better system administration, performance management, cost savings, and dashboard reporting on the usage of AVD.
 - Completed pilot group testing of AVD. Internet only computers are now in use with a production-ready AVD computing environment.
 - Existing computers can now be replaced with less expensive computers using Azure Virtual Desktop (AVD) in FY 2024.
 - The new devices are ranging in cost from about \$400 for desktops and approximately \$700 for laptops.

Goal: Support research programs and activities through the development and use of Microsoft cloud computing and cloud infrastructure solutions.

Status:

- Through the efforts of working teams made up of individuals in CITS, in the School of Medicine, the UMMS IT, the ICTR, and the Research Informatics Core, the Secure Research Environment (SRE) has been created and is in production. This is where research will be conducted with data intake and exit from this environment being monitored by the Research Informatics Core and the Honest Broker.
 - There are several other aspects of this project, including:
 - The implementation of TriNetX, which is a research project feasibility system. Faculty researchers can now use this system to review and explore de-identified clinical data for potential use in a research project.
 - Using previously purchased software licenses and transitioning them to the SRE and using the AVD management system to create the virtual computer software images.
 - Incorporating the SRE into the IRB, ORD, and Honest Broker processes.

Goal: Strengthen UMB's overall security posture by seeking and addressing vulnerabilities, assessing and mitigating risks, and heightening cybersecurity awareness.

Status:

- In strengthening UMB's overall security posture, the CITS Security and Compliance team, in collaboration with the IT security teams in the School of Medicine and the UMMS, as well as contributions from IT professionals across all UMB schools, the following actions are occurring:
 - Monthly meetings of the Information Security Collaborative (there are approximately forty individuals in UMB schools, departments, FPI, MIEMMS, and in the UMMS attending these meetings) to provide a forum for gathering information and to have discussions regarding IT security vulnerabilities and solutions for mitigating them.
 - An electronic discussion forum is also being used to share information between the monthly ISC meetings. Activities and potential issues that occur between meetings are communicated to the members of the ISC to inform them and provide information solutions for mitigating any known issues.
- Security awareness training is being delivered at least annually, and simulated phishing attempts are generated and sent monthly to test individual user security awareness.
- Penetration tests of UMB publicly accessible systems and for the SRE environment are scheduled for FY 2024.
- A USM IT audit of the School of Social Work and a USM audit of the UMB Quantum Financial System were recently completed.

Goal: Enhance and promote the UMB Data Analytics Program.

Status:

- The expansion of the data analytics program has focused on building strategic reporting capabilities for two areas of institutional data:
 - Dashboards and reports for equity, diversity, and inclusion (EDI) metrics have been created.
 - ✓ They provide insights on personnel presence by various demographic factors (ethnicity, gender, job categories, etc.), hiring trends, promotions, and separations.
 - ✓ Found here: <https://www.umaryland.edu/diversity/data/>
 - The second area of expansion is modernizing student reporting.
 - ✓ Reports for the Bursar's office have been modernized and enhanced to streamline processes and provide information faster. These reports are enabling questions to be answered more efficiently regarding student billing and account balances.
 - ✓ Dashboards and reports are being created to improve student reporting for each school with an initial focus on replacing legacy student reports.
- In the new fiscal year, the implementation of the new HCM system will begin, and the data analytics component of this project will be significant. Data analytics staff as well as implementation consultants will be building a new analytics program for UMB HR data.

Goal: Enhance education applications and systems for both in-classroom and remote teaching and learning.

Status:

- Educational applications and systems have been enhanced by:
 - Providing close caption transcription for teaching video recordings via MediaSite.
 - Installing seven additional Learning Tool Interoperability (LTI) protocols that expand the Blackboard functionality. Additional learning applications are integrated with the Blackboard Learning Management System as needed.
 - Creating a University-wide Audio-Visual Working Group, comprised of participants from each UMB school and central administrative departments. The Group is meeting bi-weekly to meet the objectives of:
 - ✓ Sharing information regarding the current state of technology in classrooms and conference rooms;
 - ✓ Discussing needs, e.g., the technology needed for hybrid, hi-flex spaces, and video presentation studio(s);
 - ✓ Identifying where common technologies and configurations can be applied;
 - ✓ Leveraging collective buying power to reduce costs;
 - ✓ And, having the Working Group serve as a channel for members to communicate daily, if needed, regarding AV/IT questions, issues, needs, ideas, solutions, etc.
 - A new employee online learning management system (LMS), Percipio, has been implemented. With Percipio, the campus now has a cloud-hosted platform to

manage employee learning management functions, eLearning content libraries, and compliance training.

Goal: Reimagine the future by implementing new and/or upgrading existing information systems and applications.

Status:

- Information systems projects completed and/or underway include:
 - A new Travel Expense System has been implemented using the Cloud-hosted SAP Concur application.
 - The eUMB HR/Payroll application will be replaced as part of major Oracle HCM Cloud project initiative. The vision for this project is to deliver a modern, robust integrated application with new capabilities for people management including recruiting, learning and performance management, position management and payroll among others.
 - ✓ Pre-implementation activities to plan for organizational readiness, lay the foundation for organizational structure and service delivery models, and address some functionality gaps within the application have been completed.
 - ✓ Implementation of the new system has commenced with a target goal of an April 2025 go-live.
 - Quantum Financial Systems continue to evolve as Quarterly enhancements are made to improve the application features and functions. Recent enhancements were made to sponsored projects functionality, and improved reporting capability for procurement and invoice payment processing.
 - Expanding access to Minority Business Enterprises (MBEs) by adding a link in the Quantum Financial System that goes to a comprehensive list of MBEs. Schools and departments will be able search the MBE vendor list and proceed to acquire goods and services from these MBEs.
 - In the Student Systems area, enhancements were made by upgrading the Banner Self Service (SURFS) to the latest release with a greatly improved user interface. Additional initiatives include updates and improvements to the Customer Relations Management and Degree Works applications.
 - An RFP has been issued for a new fund-raising management software application. Evaluation of potential solutions is now occurring, and implementation is targeted to start early 2024.

Goal: Support the UMB Center for Global Engagement and global programs and initiatives via the availability and use of contemporary tools and technologies.

Status:

- Great progress has been made with the development of a UMB Global Hub, which is a one-stop shop for personalized support with all international activities and engagement by UMB personnel and units. It includes the following features:
 - A web-based world map using mapped coordinates;

- A database for each country where activity is occurring;
- Interactivity to see content by hovering over links in the web-based Global Hub;
- Color coding in the Global Hub to make it easier to navigate and find a country.
- A new feature that has been added is the ability to see additional information when clicking on a link for each country where projects are being performed. After clicking on the link to the country, the viewer will be able to click on a link to each project in that respective country and see the title of the award, the sponsor, the principal investigators name, and the description of the project.

Goal: Support the UMB Community Engagement Center and local UMB community engagement activities in West Baltimore with technology resources.

Status:

- Ongoing IT assistance is provided to the CEC. New computers and enhanced wireless connectivity have helped improve services, e.g. With better network connectivity the Center staff can offer comprehensive Tax Preparation Services to community residents.

Goal: Develop new communication and customer support mechanisms.

Status:

- A UMB Help Desk Working Group has been formed to help strengthen customer support across the University. The group is currently working on an RFP for the acquisition of a contemporary help management system. This new system will collectively strengthen processes, procedures, operations, communications, and customer support systems.
 - The group has engaged scores of customers and technicians to discover business needs to define the requirements for uniting UMB under one system.
 - Information regarding needs and requirements for a new Help Desk system has been gathered from administrator/technician focus groups and dozens of help desk customers who represent the breadth of the UMB community.

Goal: Pursue additional opportunities for collaboration by acquiring, building, creating, and sharing technology in a collaborative way.

Status:

- Extensive work is being performed leveraging Microsoft technologies. The use of technologies under the “umbrella” of UMB Microsoft licensed products and services is helping consolidate and reduce the number of tools, technologies and systems that effectively do the same thing.
- Other considerations for the future include reducing the number of communication and collaboration systems, e.g., video-conferencing systems and having standards for AV/IT technologies in UMB classrooms and conference rooms.

Goal: Encourage the development and promote the use of advanced and emerging technologies for academic success and administrative effectiveness.

Status:

- The Microsoft Azure, Azure Virtual Desktop project is one example of a transformational IT project that UMB is currently undertaking. It will enhance IT security and the protection of data as well as provide UMB schools and departments the opportunity of buying less expensive computing devices.
- Other projects that will introduce a growing commercial product portfolio of artificial intelligence capabilities will include:
 - The new Human Capital Management system
 - A new campus Help Desk system
 - Microsoft 365 suite of applications
 - Etc.