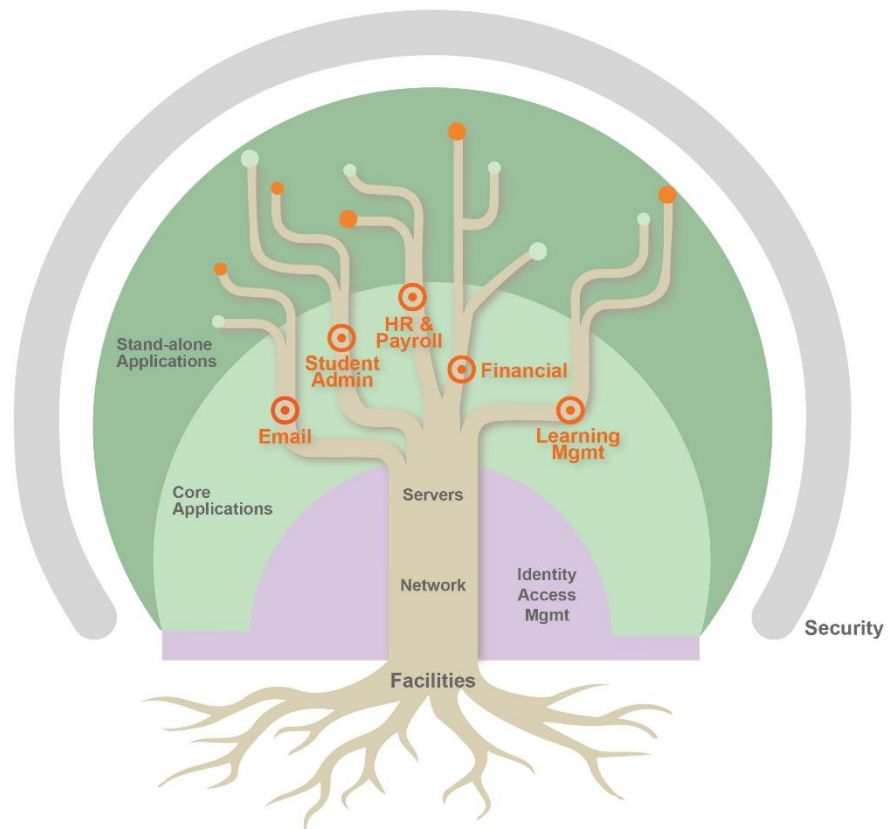


OneUConn IT Service Delivery Vision

The University's Academic Vision establishes a foundation and high expectations for excellence in research, teaching, learning, and outreach for all of UConn's campuses. The role of University Information Technology Services (UITS) is to provide central IT services that enable advancement in these key areas. As the University enfold the main campus, regional campuses, and UConn Health into its unifying plan, UITS will evolve its systems, services, and capabilities to serve one UConn.

For the Storrs and regional campuses, UITS provides systems, services, and capabilities that can be effectively provided centrally: infrastructure (network and servers), applications, and security. These components are interrelated, with the facilities and infrastructure forming the foundation for application delivery and security encompassing all aspects. This dynamic enables core IT services that are ingrained in the daily operation of our institution, such as network access, authentication, and email, to be delivered securely, efficiently, and robustly at scale to our community. These are qualities that we pursue for all centrally delivered IT services; they ensure the protection of personal and institutional data, reliable delivery, and ability to grow a service and expand its reach. If a service should possess these traits, then UITS's role is to identify this and fold appropriate changes into our central portfolio.



Our core systems, services, and capabilities are designed to grow with the University and encompass all campuses. When UITS envisions expanding the institutional technology footprint, it involves more than simply providing bandwidth to our central campus region. We plan to deliver the same contemporary and quality experience as the main UConn campus. This document describes our high-level plan for extending core IT services to all of UConn and in support of the University's academic vision.

Infrastructure

IT infrastructure consists of two broad components: the network and servers. Each must be architected with consideration of the other, and together they form the foundation for IT services. A robust, balanced IT infrastructure is the basis for reliable, responsive, and secure applications and services.

Network

The separate data networks that exist today between UConn, its regional campuses, and the Health Center will be merged into a single autonomous system centered around both the Farmington and Storrs regions. This merger will provide the University with a unified, centrally-managed network across all campuses that will facilitate improved collaboration, network management, and data security. It will eliminate the current barriers of inter-system connectivity which occur in disparate network architectures. Core network services will consist of four key locations – two in Storrs and two in Farmington – and be constructed in a ring. By providing multiple redundant paths to the endpoint, this design will ensure overall network reliability and performance.

The campus network backbone will use the 100-Gbps fiber optic link, made possible by a CC*NIE NSF grant, that connects the Storrs and Farmington campuses. Enabling high-speed inter- and intra-site connectivity, the 100G fiber backbone offers researchers the additional capacity needed for bandwidth-intensive projects, such as the transfer of large data sets. The network architecture will enable the UConn Health hospital to function as a distinct network while residing within the centrally-managed network. This will maintain security and compliance requirements and provide improved connectivity, increased bandwidth, and centralized management and standardization.

In addition to network connectivity, the four core locations will also serve as the platform for consolidating and delivering supporting network dependent services, such as DHCP, DNS, NTP and IPAM. Consolidation of these services will improve service delivery and reliability as well as reduce institutional costs by eliminating duplicate services.

The UConn network itself encompasses more than Farmington and Storrs. A key element of one UConn network would be to define a bandwidth and pathing obligations for other campus and university locations. This includes speed, possible redundancies, and a technology footprint on a per region basis that best supports the customer experience at these locations.

Servers

The University servers are housed in the data center and run the applications that serve core administrative and academic functions, such as HuskyCT, Student Administration System, and Quali Financial System. As UITS expands core IT services, the University stands to benefit from improved resource utilization, unified authentication systems, and stable, consistent IT services for all UConn

locations. Additional servers will be deployed to key locations and services will re-designed to ensure optimal performance, maximal availability, and balanced security.

Applications

Today there are campuses that use the same academic systems under different licenses, and campuses that have implemented administrative applications using different software. To unify our application space, academic systems, such as Blackboard, will be consolidated into one database requiring only one license for all UConn campuses. Campuses that use different administration systems, such as Student Administration Systems, will be converted and integrated into the appropriate enterprise resource planning (ERP) suite where this makes sense. This will minimize licensing cost and provide a consistent experience for all users, regardless of location, and allow for more efficient resource utilization.

Security and Risk Reduction

UITS will pursue solutions that unify our efforts around IT security and will significantly reduce risk for the University. This will include standardizing:

- Identity management systems, which will streamline access to applications and services, establish more secure application architectures, and improve data access security
- Infrastructure security monitoring, incident detection and response, which will enable the University to make strategic investments in and leverage tools that will improve their security monitoring and incident reporting capabilities.

With a unified approach, the University can also better balance clinical and academic security requirements. Our approach will be to implement appropriate controls for academic entities and remove restrictive controls that are necessary to meet data security and privacy regulations for clinical but not academic settings.

Business Continuity Strategy

Along with having a broad impact on our community, central IT services are also vulnerable to risk, breakages, and outages that derail delivery. Therefore, a key component to successfully designing and deploying IT services is a business continuity strategy. UITS follows a three-component model that ensures the delivery of systems, services, and data continuously:

1. **Implementation and operation, including a lifecycle model:** With an increased server footprint, all University IT services will benefit from the same discipline that UITS applies to its current implementation and capital planning approaches. To ensure long-term service and support, UITS chooses products based on a set of pre-determined criteria of history, market share, public

commitment, and intended use. Software and Infrastructure undergo planned refreshes and regular upgrades to ensure that services are reliable, modern, and supported.

2. **Location diversity:** With the two key locations in Storrs and Farmington, the University will benefit from improved location diversity. Servers will be deployed to both locations and will work in tandem to host IT services, data, and applications. A utility outage in either location will no longer imply loss of IT services.
3. **Disaster recovery:** In the event of extended outages and major disasters, UITS will execute the disaster recovery plan to recover IT services in a reasonable amount of time. This plan can be adapted and extended to include additional IT services that serve important functions for the University.

Approach and Outcomes for the Community

In planning the expansion of IT services, we understand the complexity and impact of transitioning schools, department, and campuses to central services and advantages of strategic partnerships. Our approach will start with understanding the needs of the campus, school, college, or department. Transitions will be done with careful consideration, collaboration with IT staff and other leadership, and attention to minimizing the impact to individuals. At the same time, organizational needs, both current and future, will influence decisions around resource allocation and improvements.

Delivering services to a higher education institution requires a flexible, holistic approach that is mindful of the varied research, scholarship, teaching, learning, living, and administrative activities of our community. Not all local needs are best met centrally. Desktop support is an example of a service in high demand, but for some institutional units, a local IT professional is preferable and provides better support for that area. Innovative research and scholarship can also lead to unique, niche services that require the attention of an IT professional but would not be considered a central service. For these situations, UITS's role is to strengthen the ecosystem that supports all university IT professionals and their pursuit of service to the individuals in their respective areas.

Once established, the foundation for effective service delivery will produce tangible outcomes for our community and support them as they pursue the institutional mission.

- **Research:** Improvements to the network will increase speed and capacity. These strategic updates to the network will facilitate data-intensive research and acquisition of grant funding. Broader and consistent access to services and capabilities independent of location will give researchers credible options that they will have the option to leverage.
- **Teaching and Learning:** Standardizing classroom technology and implementing lifecycle planning will deliver a contemporary and consistently high-quality experience for instructors and students. Coordinated efforts around application and software licensing will also enable the University make strategic additions to offerings.

- **Outreach:** By standardizing on the NetID system, we can easily and securely enable guests and those participating in outreach programs to provision credentials that allow them to access university resources.
- **Business and operations:** Delivery of enterprise-wide applications will enhance collaboration and efficiency of workflows among academic and administrative units.

Conclusion

UITs is a central IT provider at the University, and while resource constraints may periodically focus our attention on efficient allocation, we fundamentally exist to serve two key roles. The first is to identify institutionally relevant systems, services, and capabilities that can best be performed centrally and to deliver them robustly and effectively at scale. The second is to facilitate the best practical ecosystem to ensure the success of all IT areas and activities at the University. As a central provider, UITs is well-positioned to expand operations and affect consistent service delivery to the entire UConn system. This enables us to support and protect the data of our university community – faculty, staff, students, and guests – regardless of campus location. As the facilitator of the ecosystem, we can ensure that our IT partners and professional colleagues have the foundational resources to deliver the unique capabilities specific to their areas. Although these areas and their associated IT organizations all have the ability to function in isolation, our institution accomplishes its mission best when independent activities succeed in concert. It is this mission that informs our service definition decisions and the perspective of our community that drives our approach.