

Infrastructure and Architecture Roadmap, October 2017

Strategy		1H - FY18 (Jul - Dec 2017)	2H - FY18 (Jan - Jun 2018)	1H - FY19 (Jul - Dec 2018)	2H - FY19 (Jan- Jun 2019)	Overlaps/notes
Data Center	Cloud Network and Services Access		Ensure efficient network connectivity to Azure. (D Kelly)			
	Replicating our authentication Infrastructure in "the Cloud"	Architect Active Directory (AD) Domain Controller to support Azure. In addition, architecting support for Amazon Web Services. (D Metzler)	Add Shiboth Identity Provider (IDP) and Active Directory Federated Services (ADFS) to a hosted cloud service (Azure and/or AWS) (J O'Konek, D Metzler)			
	Google Cloud Suite	Support for College of Education for the GOED domain for Gsuite (J O'Konek, D Metzler)				
	Google Cloud Suite	Develop a "Sandbox.uiowa.edu" as a pilot for production services (J O'Konek, D Metzler)	Testing how the Google and Microsoft cloud services will interact with each other leveraging our Directory Service Authentication. (O'Konek, D, Metzler)			
	Data Center Automation		Develop a training program for System Admins to adopt automaiton in the systems management (Neese, Kelly)			
	Cloud Service Migrations		Develop a Roadmap to move the organization to a {Cloud First Cloud Smart}. Define the above to as "All new applications will be the cloud ..." (D Kelly)	Pilot a conversion of XX services to a cloud based infrastructure (IaaS or PaaS) (D Kelly)		
	Develop a monitoring solutions to inventory equipment, monitor utilizaton, alert on out of bounds conditions and keep historical performance data on systems.	Work with College of Engineering and College of Public Heath to provide pertinent monitoring data to authorized Sys Admin. Work with ITS SST, Help Desk and Network service to monitoring systems (S Soppe)				
	Storage Refresh	Replace Storage arrays to provide high-speed, low-latency storage for Oracle and Micrsooft SQL Server databases, virtual servers (VMware, Hyper-V Virtual Machines), (D Bronder)				
	HPC Installation	Install new HPC cluster for Margulis research group (J Urich)				
	Server Refresh	Migrate from standalone CLAS managed Dell VMWare based cluster to co-managed ITS Cisco UCS Vmware (J Urich, D. Bronder)				
	Storage Refresh	Migrate from CLAS standalone Netapp's to ITS Netapp and CLAS managed virtual Netapp. (J Urich, M Weber)				
	OneIT Data Center Consolidation	Migrate Netapp and VMWare clusters from 303 MLH to ITF (J Urich)				
	RHEL to CentOS migrations	Start migrating systems from RHEL to CentOS (J Urich)				

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Data Center	Starexec \$800k expansion	Purchase two racks of expansion compute nodes for starexec High Performace Compute (J Urich)				
	Starexec storage refresh	Migrate from standalone CLAS managed Netapp to ITS managed Large Scale Storage (LSS) dedicated storage (J Urich)				
	Server Refresh	Replace aging Virtualization Platform at Information Technology Facility (ITF) and Lindquist Center (LC) with a converged server and networking infrastructure. (K Keyser)				
	OneIT Data Center Consolidation	Complete OneIT Data Centers and Servers Consolidation project (G Falsetti, J Urich)				
	Data Center Information Management (DCIM) Implementation	Track and provide visibility to assets at enterprise data centers. (G Protheroe)				
	Remote access infrastructure		Refresh Raritan PDU remote access infrastructure at Information Technology Facility (ITF) and Lindquist Center (LC) over two budget cycles. (G Protheroe)			
	OneIT Data Center Consolidation Phase II: enterprise data center MEP management and operations	Consolidate enterprise data center Mechanical Electrical and Physical (MEP) management and operations, including College of Public Health Building and the College of Engineering at the Seeman Centr (SC). May also include Department of Public Safety at University Capital Center (UCC) and Visualization Lab Server Room at Pajajohn Bio Discovery Building (PBDB) (G Protheroe)				
	Data Center Linux offering		Evaluate how we collaboratively manage Linux installations on campus servers. Optimize knowledge sharing across community and delivery of secure updates to Linux systems. Review distros used on campus. (TBD)			
Directory Services	HawkID	Evaluate with Healthcare Information System (HCIS) and campus a plan for a "Single ID" for all academic usage (G. Falsetti, J. Smith)	Consolidate all @UIOWA.EDU mail routing to a single domain that matches mail target with security principle (HawkID) (TBD)			
	Local Active Directory Migrations to central AD domain		Develop a plan to migrate Facilities Management Active Directory Domain to central management. (TBD)			
	Local Active Directory Migrations to central AD domain	Complete the OneIT mirgation to the central "uiowa.edu" authenticaiton domain. - Decommssion the "ENG" and "IIBI" domain in the College of Engineering. Decomommission the "DENTISTRY" domain for the College of Dentistry and "COPH" domain for the College of Public Health (J O'Konek)				
	Google Cloud Suite	Support for College of Education for the GOED domain for Gsuite (J O'Konek, D Metzler)	Develop a "Sandbox.uiowa.edu" as a pilot for production services (J O'Konek, D Metzler)	Testing how the Google and Microsoft cloud services will interact with each other leveraging our Directory Serivce Authentication. (O'Konek, D,		
	Account provisioning	Move away from self provisioning of CLAS Linux accounts via a web page to automated provisioning at first login. (J Urich)				
	Database backups	Investigate backups hot backup solutions and more robust monitoring for Postgres/Mysql (J Urich)				
Enterprise Communications	Telephony	Partner with Health Care Information System to Deploy a robust set of Telephony applications. Analyze campus needs and map to Skype for Business (SfB) features. Create a plan and timeline to migrate all voice users to SfB. (R Lenger, S Troester)				

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Infrastructure and Architecture supporting campus partners	Google chromebooks		Evaluate and implement device management for google chromebooks (TBD)			
	Campus Linux Offering		Evaluate how we collaboratively manage Linux installations on campus workstation. Optimize knowledge sharing across community and delivery of secure updates to Linux systems. Review distros used on campus. (TBD)			
	Wireless door locks for dorms			Division of Student Life: Implement wireless door locks for dorms (B Mills)		
	Virtual Desktop Infrastructure	Upgrade Virtual Desktop Infrastructure to support Windows and Linux. Deploy service for GPU computing using VDI. (M McLaughlin)				
	Upgrade Vmware ESX	Upgrade Vmware ESX environment to 6.0 to add support for Containers (M McLaughlin)				
	Mail server migration	Migrate from legacy sendmail mail server to Postfix mail server (J Urich)				
	Fedora 26 migration	Migrate 170 Linux workstations from Fedora 25 to Fedora 26 (A Cox)				
	Kibana upgrade	Expand Kabona reporting by adding 50TB of storage and more compute nodes to Elastic Stack (J Urich)				
	Wordpres	Move Wordpress instance to AWS (J Urich)				
	Core facility	Move chemistry core facilities away from BSD firewalls to LSA and CLAS managed Linux offerings (J Urich)				
	Teaching	Move Physics from self managed teaching server to CLAS managed server hosted at ITF (J Urich)				
Network services	Data center multi-tenancy	Develop a strategy to support Multi-Tenancy to be reviewed by InArc (D Kelly)				
	Architecture to update data center electronics		Develop a strategy to support refresh electronic (TBD)			
	Uofl Hostmaster	Architect UIOWA.EDU Domain Name Service (DNS) domains to support cloud services (J Ford)	Bring the group of Uofl Hostmaster together as one team (TBD)		Centrally manage DNS/DHCP configuration system for voice and data network connections	
	IPAM solution			Evaluate IPAM solution for Data Center and Campus IP Addressing (TBD)		
	College of Engineering network	Plan the combination of distributed networking support into a single campus network service (D. Tang, G. Falsetti)	Combine distributed networking support into a single campus network service (D. Tang, G. Falsetti)			
	State Hygenic Lab Network	Plan the combination of distributed networking support into a single campus network service (F. Delin, G. Falsetti)	Combine distributed networking support into a single campus network service (F. Delin, G. Falsetti)			
	Facilities Management Network			Work with Facilities Management and the ISPO to support building automation on campus		
	Edge electronic	Consolidate unused newtork ports on campus to reduce expenses and security exposure (C Meier, G Stumpf)	Develop a plan to refresh network electronics. Service Reivew of campus Edge Network (G Falsetti, C Meier)			
	Classroom Video of Network	Develop a set of standards for deploying High fidelity and low lantancy video over the network. College of Nursing is the pilot building (K Kaltsas)				

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	Distributed Denial Of Service (DDoS) Prevention for Campus	Work with I2 and Chicago OmniPOP to provide a DDoS service for campus (R Davis)				
	Remote Campus Support	Bring a group of campus support personnel to develop to do a needs assessment and develop an architecture to support remote campus	Pilot remote campus architure that is sustabable at X number of locations			
	Aruba OS 8	Upgrade ArubaOS 8 and Implement Mobility Master Architecture (N Johnson)				
	Guest wireless	Define and deploy a new "GuestNet" Wireless service for campus (N Johnson)				
	Port Consolidation	Port consolidation forBiology Building (BB), University Capital Center (UCC) and Papajohn Bio Discovery Building (PBDB) buildings on campus (C Meier, G Stumpf)				
	Dorm commissioning	Commission Elizabeth Catlett Dorm (C Keasler)				
	Iowa One Call Locate		Consoliation of Inforamtion Technology Services and Facilities Management Iowa One Call Locate Service (G Stumpf)			
	Fiber Optic network	Deploy a Campus Fiber Optic network to support campus needs (G Stumpf)				
	CoE commissioning	Commission new addition to Seamans Center (G Stumpf)				
	New Golf Facility Commissioning			Commission new golf facility (G Stumpf)		
	Cabling standards		Review cabling standards within buildings (G Stumpf)			
	IT rooms: Power and HVAC	Evaluate IT room configurations for Power & HVAC (G Stumpf)				

DNS	Domain Name Service
AD	Active Directory
AWS	Amazon Web Services
LC	Lindquist Center
ITF	Information Technology Facility
MEP	Mechanical Electrical and Power
CPBH	College of Public Heath Building
SC	Seaman Center
Shib IDP	Shibolith Idenity Provider
ADFS	Active Directory Federated Services
DPS	Department of Public Safety
PBDB	Papajohn Bio Discovery Building
HCIS	Health Care Inforamtion Systems
SfB	Skype for Business
DCHP	Dynamic Host Configuraiton Protocol