

OneIT@Iowa Status Update - DCS



Project Details

Project Name: Data Centers and Servers
Project Team Leads: Guy Falsetti, JJ Urich, Jerry Protheroe
Project Manager: Kris Halter
Reporting Period: 04/13/2015 – 08/07/2015

Project Life Cycle - Phases

Item	Phase 1 – Initiation	Phase 2 – Planning	Phase 3 – Implementation	Phase 4 – Close Out
Timeline:	4/13/2015 – 6/18/2015	6/19/2015 - 10/01/2015	10/02/2015 – 08/01/2018	08/02/2018
Status:	On Track	On Track		
Completion:	100% Complete	5% Complete	0% Complete	0% Complete

Executive Summary

Overall Status:	On Track	Notes
Schedule:	On Track	This will be a multi-year project extending into 2018. A more detailed schedule is planned for developed in the next phase, planning.
Budget:	\$2,060,000	The high level project budget was outlined in the project Charter with a schedule of release of funds over the next 2 years for facility, server, and network upgrades to facilitate the consolidations. \$300,000 of the requested budget will be a reoccurring expense for the support of 3 lines to handle the influx of additional server support needs within ITS during and post consolidations.
Risks:	Attention Required	The OneIT reporting structure has a significant impact on the OneIT Data Center and Server project. With the project requiring a high amount of labor, up front capital expenditures, reoccurring expenditures, and a high political footprint, broad and inundated executive and collegiate support and backing is highly critical for the success of this project.
Issues:	Attention Required	There was significant push back from specific researchers, colleges, and IT leaders on consolidation of any servers and rooms within their area or jurisdiction. Most of these issues are being worked on, on a case by case bases.

Phase 1 – Initiation

Phase Status: Complete
Phase Start Date: 04/13/2015
Phase End Date: 06/18/2015

Accomplishments

- Kicked off Data Center and Server project
- Project Charter completed and approved
- Project Charter posted to the OneIT website for public review and feedback.

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- Developed initial draft of the Project Plan.
- Established an Advisory Committee and Key Stakeholders and presented project plan to them.
- Met with Facilities on Data Center consolidation and obtained their support and partnership on the project.
- Obtained an FM team member who will be present on all audits to assist with MEP data collection.
- Partnered with the OneIT Storage project and agree to share Data Center inventory information and other overlapping tasks so as to not duplicate work.
- Development a check list for data center migrations, a Macro level audit and a Micro level audit; done in conjunction with the HPC and EFS projects.
- Negotiated and have signed MOU with Physics for decommissioning and management of their server rooms and servers.
- Meet with Dave Eichman about moving systems out of 114 MRC with his systems out of that location we can start shutting down the room.
- Migrated 2 servers from a Physics research group to ITF.
- Order first Chemistry HPC cluster for delivery and installation into ITF.
- Migrated 5 racks of gear from MLH server room to ITF
- Ordered and installed 50TB of ITS Netapp storage for CLAS to decommission Xserves used in Art and Journalism as well as to mitigate future orders in the departments.
- Used a ITS “bone yard” machine as a Jump Server for CLAS Cluster management node (AP-42 Slot 22)
- Received Silicon Mechanics server for CLAS in ITF. Planning deployment.
- Team leads and PM attended two days of Project Management training
- 1st DC Networking SOW received from Forsythe.
- Received CLAS Co-location servers for a Chemistry cluster to be installed at ITF.
- Relocated Geoscience (sasquatch) servers to ITF.
- Received and Incorporated feedback from campus server room admins on charter and what team they would like to be part of.
- Developed a presentation and presented at the TechForum
- Fostered relationships with our peers at UNI and ISU
 - Came up with a list of items to coordinate on with UNI and ISU around training and technical user groups/information sharing
 - Identified areas to coordinate joint purchases
- Progress and support on getting Inventory team buy-in from FM, Lou Galante and Steve Dellabetta.
- Completed initiation phase

Upcoming Milestones

- N/A

Planned Work

- N/A

Matters for Steering Committee Attention

- Funding approval of needed Server, Network, and Facility upgrades.
- Funding approval of 3 lines to manage migration and support of servers within ITF.

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Phase 2 – Planning

Phase Status: In Progress
Phase Start Date: 06/19/2015
Phase End Date: 10/01/2015

Accomplishments

- Multiple drafts of funding request have been created.
- Notifications to server room owners were sent out of our intent to do an inventory of their spaces.
- Obtained feedback from all server room owners via email or telephone conversations and updated ownerships as needed
- Planned out Chemistry cluster moves to ITF (moving of equipment (who, when, how) and long term maintenance (services)).
- Powered off 7 Chemistry clusters.
- Began planning of decommissioning or moving of remaining Chemistry clusters.
- Permission from chem researcher to shutoff/surplus three legacy HPC clusters.
- Gave high profile chemistry professor/researcher a tour of ITF. He was impressed and gave the green light to move his research servers. This should foster some positive PR from him to his colleagues.
- Moved 10U of storage for Chem to ITF.
- Moved an addition 15Us of servers from Chem to ITF.
- Permission to de-commission 3 cluster from chem consisting of 53U of servers!
- Started dialog on the moving of the rest of the HPC clusters in Chemistry to ITF.
- Got the green light to move additional research servers from Chem to ITF, 10U / 8 servers. This will require additional leg work in needing to work with a software vendor to move the license on some software on these machines.
- 2U of servers will be moved from Chem to the AP CLAS rack at the same time as the other servers listed above get moved.
- First Macro audit conducted of 303 MLH in conjunction with the IT owner, various FM personnel and IT staff.
- Conducted 3 Macro level audits of the 3 chemistry building server rooms in detail with FM and various IT staff on campus capturing over 50 data points for each room.
- Conducted Macro level audits of the 2 Law building server rooms in detail with FM and various IT staff on campus capturing over 50 data points for each room.
- Conducted Macro level audits of the 2 West Lawn building server rooms in detail with FM and various IT staff on campus capturing over 50 data points for each room.
- Began planning the move of the remaining equipment/cluster from 114 MRC to ITF.
- Wrote up cost estimates and plan for the cluster moves from 114 MRC to ITF.
- Presented the cost estimates and plan for the cluster moves from 114 MRC to ITF to the OneIT SC. The conversation moved to the Deans on how to proceed with these types of requests for researchers.
- A draft incentive plan was created and is being floated around between the Deans and IT leaders to have aging and insecure servers be partially covered by DCS in replacement and the other portion covered by the researcher, or department. This will be more of an incentive program instead of a fully subsidized program to make sure only the equipment deemed needed by the researchers, deans, and departments will be funded.

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- Began Data Center Redesign planning and team formation
- Population of POSIX attributes completed in the Iowa domain global catalog -DIVMS started re-numbering uid/gid after DNA team created remaining legacy DIVMS unix groups in AD
- UI Foundation Tour – Chad Furlong (CIO) and other Foundation staff. They confirmed again their plan to move UI Foundation production servers to be hosted at ITF.
- Met with OneIT PO on overall project plan.
- Pharmacy dark fiber cabinet move was completed for Test and Production environments.
- Continue to meet with OneIT Storage and HPC teams to keep everyone up to speed on all 3 projects since there is great overlap between them. Storage is tackling their low hanging fruit while they wait for the DCS project to complete the audits so as they can utilize the needed information from that.
- In partnership with FM the DCS team met with the Department of Energy on their Better Buildings initiative, an energy efficiency program for data centers. This program will allow us to receive technical expertise/assistance, communications support, and a dedicated account manager from the DOE along with networking opportunities with other Universities and corporations that have completed the initiative, the ability to exchange best practices and innovative solutions with the DOE and other entities, and recognition for progress and success from the DOE.
- 5 new server cabinets have arrived, these will allow for more equipment into the research row at ITF due to the row quickly filling up because of all the work JJ Urich, Gary Arner and Kevin Zhu have done recently on migrating systems into ITF.

Upcoming Milestones

- Complete remaining Macro/MEP level audits of server rooms across campus, currently scheduled for completion October 7th.
- Finalize Timeline.
- Finalize Project plan, and obtain public feedback.
- Secure funding and resources to aid in the consolidation of 32+ server rooms.
- Decide on which server rooms will remain and transform into an enterprise level community data center.
- Finalize the details and policies on an incentive program for outdated/unsupportable research equipment.

Planned Work

- Audit server rooms
- Install additional server racks in ITF to house additional equipment for planned moves.

Matters for Steering Committee Attention

- Funding approval of needed Server, Network, and Facility upgrades.
- Funding approval of 3 lines to manage migration and support of servers within ITF.
- Decision on how to handle the research equipment incentive program.