

Project Plan



Details

Project Name: Data Center Consolidation
Project Team Leads: Guy Falsetti, JJ Urich, Jerry Protheroe
Project Manager: Kris Halter
TeamDynamix Project Number: 241095

Project Overview (What is going to be accomplished)

To consolidate 48+ data centers on campus into the correct number of centrally supported, multi-tenant data centers based on current and future needs and requirements of the University.

1. Complete a thorough inventory, evaluation and classification of existing data center and server room spaces across campus, computing equipment housed in them and services provided.
 - a. Retire – If server/service is no longer is needed, retire the server or service.
 - b. Consolidate – If the service can be migrated to an existing service, consolidate.
 - c. Virtualize – Evaluate the current workload, CPU, memory, and disk requirements. If software will support virtualization, move to a virtual guest on central server farm.
 - d. Cloud – Evaluate the current workload, CPU, memory, and disk requirements. If the software will support a cloud provider move the service to the cloud.
 - e. Replace – Evaluate the current hardware age and configuration. If out of warranty and/or not in a configuration suitable for the data center then replace the hardware with new equipment.
 - f. Migrate – If all other options are exhausted. Move the equipment.
2. Develop process for moving Non-High Performance Computing (HPC) clusters. A team would look at evaluating each server/service.
3. Gather current energy usage or calculate estimates in the current location.
4. Develop data center services and operational models that facilitate consolidating data centers spaces. Work to ensure that services provide remote management capability and levels of support comparable to a local facility.
5. Identify schedule/sequence of server moves and server room retirements.
6. For each server room, assess the services provided by each server, identify target (move to central service, virtualize or move server) and move services/servers as needed.
7. Identify contingencies as required for services that can't move and/or perform cost benefit analysis for possible exemptions.
8. Decommission server rooms that have completed data center and server consolidation.
9. For remaining Data Centers bring them up to university standard and multi-tenancy;
 - a. Evaluated network connections to the location.
 - b. Install monitoring systems for the facility.
 - c. Install video surveillance for the facility.
 - d. Set up governance structure for the facility.

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Project Staffing (Who will perform the work)

Who	Skill Set	Estimated Time Commitment
Guy Falsetti	Project Lead	200
JJ Urich	Project Lead	200
Jerry Protheroe	Project Lead	200
Kris Halter	Project Manager	200
Gary Arner	Project Member	150
Kevin Zhu	Project Member	100
Mark Sadewasser	Project Member	100
Stephen Hoffman	Project Member	100
Sys Admins	System Migration	400
Total Hours		1650

Project Schedule (When will the work be started/completed)

Phase 1 - Initiation (Spring – Summer 2015) April 2015 – June 2015 → COMPLETE

- Develop project charter
- Develop stakeholder registry
- Form advisory committee
- Form project team

Phase 2 - Planning (Summer/Fall 2015) June 2015 – October 2015 → COMPLETE

- Macro level audits of all server rooms.
- Determine engagement and communication strategy.
- Engage IT campus community as needed for feedback.
- Outline high level Data Center service offerings for migrations and consolidations.
- Determine what rooms will get consolidated, and what rooms may get upgraded.
- Determine additional requirements.
- Finalize project plan and post for public comment.

Phase 3 - Implementation - October 2015 – August 2018

Stage 1 – Low Hanging Fruit - July 2015 – June 2016

- Consolidate management of the future state centrally run Data Centers into one work group.
- Use the service migration process to close 20 server rooms.
- For each server room closed, develop, scope and complete a decommission plan.
- Continue campus engagement as defined in Stage 1 (provide updates on Project and gather feedback).
- Flesh out baseline service offerings.

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- OneIT Steering Committee review and feedback of baseline service offerings.
- Vet service offerings to campus IT community.
- Start implementing baseline services.
- Tweak service based on feedback.
- Flesh out next round of service offerings.
- Develop network redesign requirements for support of multitenancy DCs.

Stage 2 – Enhance DCS Service offerings and consolidate mid-level rooms - July 2016 – June 2017

- Consolidate server management into one group.
- Use the service migration process to close 8 data centers.
- For each server room closed, develop, scope and complete a decommission plan.
- Continue campus engagement as defined in Stage 1 (provide updates on Project and gather feedback).
- Flesh out expanded service offerings.
- Update campus IT community and OneIT Steering Committee.
- Tweak service based on feedback.

Stage 3 – Consolidate remaining rooms - July 2017 – June 2018

- Use the service migration process to close 4 data centers.
- For each server room closed, develop, scope and complete a decommission plan.

Stage 4 – Finalize Consolidation - July 2018

- Complete all service migrations.

Phase 4 (Fall 2018) August 2018

- Project Close Out.
- Ongoing service enhancements.

Project Budget

1. Funding

- a. Data Center Server Consolidation FY16 - \$250K
 - i. - \$20K initial funding for the project.
- b. Data Center Network Aggregation FY16 - \$350K
- c. **DC Facilities FY16 - \$280K**
- d. Data Center Server Consolidation FY17 - \$250K
- e. Data Center Network Aggregation FY17 - \$350K
- f. **DC Facilities FY17 - \$280K**

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2. Staffing Addition

- a. Technical Project Manager - \$100K
- b. 2 x Sr. Systems Administrator - \$140K

Change Control Plan (What is the process for managing change)

- Changes to the order of inventories of server rooms, and staff conducting inventories will be evaluated approved by the Technical Team Lead.
- Changes to inventory timeline will be evaluated and approved by the DCS Steering Committee.
- Changes in the budget will be evaluated and approved by the DCS Steering Committee.
- Scope changes and additions will be evaluated and approved by the DCS Steering Committee.
- Substantial changes to project scope will be brought to the OneIT Steering Committee for evaluation and resolution for items deemed outside of timeline, budget, and scope by the DCS Steering Committee.

Communications Plan (How will information be communicated)

Target Audience	Primary Contact	Communication Mechanism	Frequency	Purpose/Description of Communication	Author / Owner
OneIT Steering Committee	Chris Clark	Presentation	As needed	Overall plan for migration. Approvals for plans and budgets.	Guy Falsetti
Project Team	JJ Urich or Guy Falsetti	Discussion	Bi-Weekly	Project Status and Planning	Team
CITL Community	Program Office	Presentation	Once	Understanding of Data Center Services. Buying into the process of migration of services. Where their departments can help with service consolidation.	Guy Falsetti, Jerry Protheroe and JJ Urich
ITAdmin Community	Tim Wolfe	Presentation	As needed	Overall plan for migration. Where their departments can help with service consolidation.	Guy Falsetti and JJ Urich
Advisory Committee	Kris Halter	Presentation and Discussion	Bi-Monthly	Project Status and Planning	Team
Deans and Department Heads	Steve Fleagle	Presentation	Once	Consolidation of IT resources can help improve services to campus and lower the overall cost to departments. Reduce the risk of loss of university	Guy Falsetti

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				data. Improve the support for Faculty research with high speed	
Select Faculty Members/Research Groups	Faculty Member	Discussion	Once	The University supports their academic and research missions. This will allow them better network connections. Common infrastructure components are centrally funded.	Guy Falsetti, Jerry Protheroe and JJ Urich
Facilities Services	Steve Dellabetta and Ann Rosenthal	Discussion	Quarterly	Consolidation of IT resources can help improve services to campus and lower the overall cost.	Team
Stakeholder for server rooms	Room Owner	Discussion	As many as it takes	The University supports their academic and research missions. This will allow them better network connections. Common infrastructure components are centrally funded.	Team

Risk Management Plan

Risks will be identified during project team meetings, audits or discussions with project stakeholders and server room owners. Once identified the risks will be assessed and the likelihood of occurrence and impact on the project will be determined. Risk mitigation strategies will be developed for risks that have a high impact and a high likelihood of occurrence on the project. The risk tracking list will be located on the Data Center and Servers Project SharePoint Site.

https://sharepoint.uiowa.edu/sites/projects/oneit/implementation/datacenter/Shared%20Documents/02_Planning/Risk%20and%20Issue%20Registry.xlsx

<i>Risk Number</i>	<i>Risk Description</i>	<i>Likelihood (H,M,L)</i>	<i>Impact (H,M,L)</i>	<i>Mitigation Strategy</i>
1	Significant Up Front cost	H	H	Get Central Funding to seed this project
2	Significate Labor needed	H	H	Spread project over a number of years and consolidate server management
3	Flexibility needed by Departments	H	H	Develop a group that will address the needs of Academic and Research units on campus
4	Resistance to Change	H	H	Monthly Advisory meetings, preemptive emails to server room owners about project inventory plans, initial communication to faculty via Steve Fleagle, one on one's with staff and faculty as server rooms are inventoried and migrated.

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5	Network architecture	H	H	Redesign ITF network with multi-tenancy as goal (or is some other team doing this?)
6	Run out of space in DC's	M	M	Develop governance and life cycle management policies
7	New DCs/Servers brought up in defunct locations	M	M	Policy and Adherence. Removal of server room MEP (HVAC and electrical support) systems. Remodeling of locations for alternate usage.
8	Shadow IT	M	H	Must make ITS service delivery more agile to prevent systems from returning to local offices or research labs.

Issue Tracking and Resolution Plan

Issues will be identified during project team meetings, audits or discussions with project stakeholders and server room owners. Once identified the issues will be evaluated, tracked and assigned in the issue tracking list located on the Data Centers and Servers Project SharePoint Site.

https://sharepoint.uiowa.edu/sites/projects/oneit/implementation/datacenter/Shared%20Documents/02_Planning/Risk%20and%20Issue%20Registry.xlsx

Metrics / Key Performance Indicators

- Multi-tenant data center services identified and created or enhanced
- Number of Data Centers decommissioned
- Number of Physical Servers moved
- Number of Physical Servers converted to VMs
- Number of Physical Servers decommissioned
- Number of VMs decommissioned
- Energy Savings
- MEP Operations & Maintenance Savings
- Staff Savings

<input type="checkbox"/>	Project Plan Approval Date	MM/DD/YY
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