

University of Notre Dame

CloudFirst Program Plan

Document Information

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1.1	12/8/2015	Michelle Sorensen	Inclusion of new strategic risk; additional mitigations for identified risks; specific articulation of resource estimate re-evaluation during the key checkpoints required by the OIT project process; exclusion of desktop virtualization; additional control qualifications regarding overarching principles; formatting; updates on current state of sub-projects since plan initially issued.

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1 Notre Dame's Cloud Computing Strategy

1.1 Executive Summary

Excerpt from [Notre Dame Cloud First Executive Briefing](#)

Over the past five years, Notre Dame has gradually embraced cloud computing as a cost effective, flexible way to deliver increasing levels of computing functionality, performance and capacity to the campus community at reduced costs. We are now at a turning point where the costs of maintaining our existing infrastructure, combined with the increasing IT service demands from faculty, students and administrators, place us at a crossroads where we must transform our operations in order to meet University academic and operations requirements. In response, we are setting out a “Cloud First” strategy for computing at Notre Dame, building upon the [Cloud Strategy for Higher Education: Building a Common Solution](#) (EDUCAUSE ECAR).

1.1.1 How Will Notre Dame Move Into The Cloud?

Our Cloud First strategy states that we will turn to cloud services as the preferred option to meet all new business requirements. This has been our de facto approach for several years. When facing a new requirement, we will first consider Software-as-a-Service or Platform-as-a-Service solutions. If no SaaS or PaaS solutions meet our requirements, we will then turn to an Infrastructure-as-a-Service approach using Amazon Web Services as our primary provider (AWS).

In addition, we will begin the process of migrating existing on-premises services to the cloud, reducing and eventually eliminating our reliance upon on-premises data centers. Following this approach, we expect that 80% of our services will move into the cloud over the next three years. At the end of that migration, we intend to use Data Realty as our only local data center and reclaim the space occupied by the data center on the first floor of the IT Center.

1.1.2 What Costs Will Be Associated With This Move?

The complexity of IT services currently offered on campus and the variable nature of the pricing models for IaaS solutions make it difficult to estimate the costs of implementing a solution in the cloud prior to actually building it. We are confident that our cloud migration will be cost-neutral, and likely cost-beneficial, when comparing our current computing costs to current demand.

2 Overview of the CloudFirst Program

To accomplish the realization of the CloudFirst strategy of 80% of IT Services in the cloud for Notre Dame, the program is structured as follows:

1. Identify and complete initial Amazon Web Services (AWS) objectives (Appendix 20.1 [AWS Objectives for Pilot Projects](#)) through four pilot projects (see section 12 for details), structured to address the following scope:
 - a. Evaluate Amazon Web Services (AWS) as IaaS/PaaS opportunity
 - b. Expand ND presence in AWS
 - c. Provide DevOps foundations
 - d. Determine governance for IaaS/PaaS in AWS
 - e. Determine service and support operational model for IaaS/PaaS in AWS

2. Expand upon the foundational infrastructure model created in the pilot projects in the Notre Dame AWS space (see [Trello board](#) for specific deliverables, filtering on the below labels).
 - a. Security
 - b. Automation
 - c. Networking (including VPC, DNS and Data Center integration)
 - d. Identity and Access Management
 - e. Backup/Recovery & DRBC
 - f. Database hosting
 - g. Monitoring/Logging
 - h. File Space
 - i. Configuration Management
 - j. Key Management/Rotation
3. Define the operational considerations based upon optimized current practices and AWS uniqueness (see [Trello board](#) for specific deliverables, filtering on the below labels)
 - a. Cost and Account Management
 - b. Governance, Policies & Procedures
 - c. Support ownership & tools
 - d. New AWS Offerings & retrofits
 - e. Defined operational pauses
 - i. No new infrastructure or migrations, per defined timing
 - ii. Evaluate current state against AWS Operational Checklist
 - iii. Add deliverables & adjust plan to resolve gaps
4. Consolidate the list of [IT workload services](#) from the following sources:
 - a. [Service Offerings](#)
 - b. [Service Catalog](#) (obsoleted)
 - c. [Master Server List](#) (MSL)
 - d. Identification of unaccounted for additional SaaS services in use
 - e. Identification of unaccounted for additional services on servers located in the Information Technologies Center (ITC) data center
5. Coordinate with each service owner for each service and subsequent offerings
 - a. Determine appropriate migration approach, complexity and current architecture details
 - i. 0-Retire: Service to be retired in place prior to the end of the program
 - ii. 1-Realized: Service already in the Cloud
 - iii. 2-Rehost: Straight forward migration to the Cloud
 - iv. 2.5-Rehost w/platform: Straight forward migration to OIT managed platform in the Cloud
 - v. 3-Replatform: Some redesign necessary to migrate the service to the Cloud
 - vi. 4-Repurchase/ Replace: Service moving to SaaS/PaaS model prior to the end of the program
 - vii. 5-Hybrid: Some of the IT workload will migrate to the Cloud and some will remain on premises

- viii. 6-Redesign: Complete/Significant redesign of the underlying architecture of the service required to migrate to the Cloud
- ix. 7-Retain: Service remaining on premises
- b. Evaluate impact of migrating, considering service lifecycle, key usage timeframes, key dependencies and University criticality (Low, Medium, High)

3 Migrate grouped services into phased migration bands with program lead and service ownership partner (see 10 Program Level Resources/Timeframe)

Role	Quarter	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Total
AppServ-EntAppsAppAdmin		0.36	0.39	0.38	0.10	0.09	0.09	0.09	0.09	0.16	0.21	0.21	0.21	0.21	0.38	0.38	3.35
AppServ-SharePointAppAdmin		0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
AuxOps-ORM		0.05	0.04	0.02	0.02	0.02	0.10	0.02	0.02	0.02	0.05	0.05	0.04	0.02	0.02	0.02	0.51
AuxOps-Tech		0.00	0.00	0.00	0.04	0.06	0.06	0.06	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.29
BA/QA-Analyst		0.05	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
BI-ORM		0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.39
CA-ORM		0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.39
CA-PM		0.00	0.00	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
CnfgMgmt-Splst		0.36	0.35	0.38	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.00	0.02	2.29
CommSrv-Messaging		0.36	0.39	0.38	0.30	0.25	0.27	0.35	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	5.34
Core-ITFac		0.36	0.78	1.15	1.14	0.89	0.92	0.92	0.91	1.00	1.15	1.15	1.15	1.15	1.15	0.96	14.80
Core-ORM		0.11	0.12	0.09	0.05	0.06	0.05	0.06	0.02	0.08	0.12	0.12	0.12	0.12	0.12	0.12	1.33
Core-Storage		0.05	0.05	0.05	0.05	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.70
Core-VM		0.41	0.57	0.43	0.71	0.69	0.75	0.76	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.76	10.39
CTS-Exec		0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.73
DBS-OracleDBA		0.36	0.29	0.08	0.10	0.15	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.38	0.38	2.48
DBS-SQLDBA		0.36	0.29	0.14	0.44	0.44	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	5.47
DevOps-AppAdmin		0.18	0.39	0.38	0.19	0.31	0.23	0.23	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	4.89
DocMgmt-Developer		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
DocMgmt-ORM		0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.23

Role	Quarter	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Total
DSS3-ORM		0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
EAI-AppArch		0.36	0.29	0.25	0.28	0.27	0.29	0.29	0.28	0.29	0.29	0.29	0.29	0.29	0.29	0.29	4.35
EmpFin-Developer		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EmpFin-ORM		0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.39
EntArch-App-Consultant		0.55	0.55	0.56	0.55	0.55	0.58	0.58	0.55	0.55	0.38	0.55	0.55	0.55	0.38	0.38	8.02
EntArch-Infra-Consultant		0.55	0.59	0.58	0.52	0.45	0.48	0.40	0.43	0.46	0.55	0.55	0.55	0.55	0.38	0.38	7.63
FinSrvs-ORM		0.11	0.12	0.12	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	1.73
IAM-Consulting		0.17	0.10	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
IAM-Developer		0.27	0.32	0.46	0.41	0.45	0.47	0.43	0.43	0.47	0.47	0.47	0.47	0.47	0.47	0.47	6.56
InfoSec-Consulting		0.24	0.25	0.27	0.24	0.30	0.31	0.40	0.42	0.45	0.45	0.45	0.45	0.45	0.45	0.45	5.48
IS-Arch		0.36	0.43	0.20	0.19	0.11	0.07	0.07	0.05	0.07	0.07	0.07	0.07	0.07	0.07	0.07	1.96
IS-Exec		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.69
ITSD-Exec		0.11	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.45	0.07	0.07	0.07	0.07	0.07	0.07	1.47
NtwkSrvs-NetEng		0.34	0.23	0.40	0.36	0.27	0.22	0.18	0.18	0.22	0.26	0.26	0.28	0.28	0.05	0.05	3.58
Platform-Developer-Mac		0.00	0.00	0.09	0.09	0.09	0.03	0.03	0.06	0.13	0.17	0.17	0.17	0.17	0.17	0.17	1.71
Platform-ORM		0.05	0.05	0.09	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	1.56
Platform-SysAdmin		0.72	0.72	0.75	0.76	0.46	0.39	0.39	0.39	0.39	0.65	0.65	0.78	0.78	0.57	0.57	8.95
PMO-PM		0.36	0.36	0.35	0.35	0.44	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	5.71
Student-Developer		0.00	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Student-ORM		0.07	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.40
TnT-Splst		0.15	0.16	0.16	0.15	0.05	0.05	0.05	0.05	0.05	0.16	0.16	0.16	0.16	0.06	0.06	1.64
US-Exec		0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.73
US-OITProfDevSplst		0.14	0.11	0.16	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.06	0.06	2.17
Total		8.05	8.42	8.53	7.94	7.40	7.14	7.13	7.23	8.09	8.17	8.33	8.63	8.62	8.78	7.80	120.26

6. Program Roadmap)

a. Infrastructure (Bob Winding)

i. IaaS foundational & IaaS Optimization

ii. Operational Model (shared between Scott Kirner/Chris Fruehwirth/Shane Creech)

- iii. Identified sub-projects (Oracle HA, AWS IAM, AWS InfoSec, etc.)
- b. Platforms (Scott Kirner) – Pilot/assessment prior to full implementation/migration
 - i. ColdFusion
 - ii. Weblogic/Apex
 - iii. Citrix
 - iv. OnBase
 - v. SharePoint
 - vi. Business Intelligence
 - vii. University Portal (InsideND)
 - viii. Banner/Job Scheduling
- c. Standalone App/Service (Sharif Nijim)
 - i. Smaller services migrated by program team
 - ii. Sub-projects for larger/riskier services
- 7. Optimization of base infrastructure and refactoring of migrated services, as needed and cost efficient
- 8. Migrate remaining ITC Datacenter to Data Realty

3.1 Not included

- 1. Responsibility for specific service migrations to SaaS. They are the responsibility of the service owner groups to do within the program timeframe. Program manager will coordinate with service owner groups to record timing and completion.
- 2. Responsibility for specific service retirements. They are the responsibility of the service owner groups to do within the program timeframe. Program manager will coordinate with service owner groups to record timing and completion.
- 3. Responsibility for related initiatives. They are the responsibility of the service owner groups to do within program timeframe. Program manager will coordinate with service owner groups to record timing and completion.
- 4. Migration of services flagged to remain on premises
- 5. Migration of all non-ITC data center located services. Depending on availability, services located on campus may be included in the workload, but will not supersede priority of services within the ITC data center.
- 6. Migration of Enterprise File Transfer services (EMFT, Dropbox, AISDrop). These service migrations/replacements are included in the Web Integration Platform efforts.
- 7. Desktop virtualization, including lab images, not included in Application Virtualization migration (Citrix) efforts.

4 Overarching Principles

- 1. Select instance size based on minimal needs with expectation of easy growth and expansion, either automatically (auto-scaling) or manually

2. Thoughtfully evaluate actual uptime needs, especially for Development and Test environments. By default, instances will be setup in a scheduled state with exceptions for requested additional uptime.
3. Evaluate each service to determine best database approach (standalone within service or joined to hosted database services)
4. Evaluate new AWS released features for operational optimizations of implemented and planned environments
5. Trust but verify balanced with defined [separation of duties](#).
6. Include and involve the subject matter experts on the core team in a collaborative, flexible and rapid response approach
7. Service and support owner actively involved and approval required before a migration is considered done, which includes full service documentation updated
8. Evaluate each service's SaaS or PaaS viability before assuming IaaS in AWS migration
9. Evaluate each service's continuing need before assuming migration. Identify opportunities to retire or consolidate services.
10. Prioritize addressing technical debt/optimization on service stability & efficiency, not new features.

5 Program Team*

Program Architecture

Bob Winding, Enterprise Infrastructure Architect
(Technical Lead)
Sharif Nijim, Enterprise Application Architect
(Functional Lead)
Scott Kirner, CTS Architect (Operations Lead)
Brandon Rich, CITS Application Architect
(Development Lead)
John Buysee, IS Infrastructure Architect
(ITIL Lead)

IaaS Governance Committee

Standards and
Architecture's Design
Review Board

Program Steering Committee

Mike Chapple
Katie Rose
Scott Kirner
Sharif Nijim
Bob Winding
Shane Creech
Chris Fruehwirth
Andrea Amoni
Mark Demlow
Tracy Weber

Program Management

Sponsors:
Ron Kraemer
Mike Chapple

Program Manager/
Project Services:
Michelle Sorensen

Migration Coordinators/ PMs

Mike Ball
John Grover
Steve Tapp
Don Padgett
Designated migration PMs

Initial Core Team

Jaimie Preciado, InfoSec
Eric Schubert, Application Services
Pete Bouris, Application Services
Paul Wehner, Communication Services
Milind Saraph, Platform Services-Linux
Brian Perri, Platform Services-Windows
John Grover, SQL DBA
Joan Huang, SQL DBA
Raj Tiawari, Oracle DBA
Vincent Melody, Oracle DBA
Steve Tapp, Core Services
Aaron Wright, Core Services
John Pozivilko, Core Services
Mike Ball, Core Service
Mike Dunn, IAM
Bob Richman, Networking

Expanded Team

Chris Fruehwirth, Platform Services
Kolin Hodgson, InfoSec
Fred Nwanganga, DBS
Bobbi Cain, QA
Shane Creech, Core
Andrea Amoni, Business Office
Mary Toll, Licensing
Kevin Dobecki, Change Control
Yun Yu, IAM

Service Owners

OIT Relationship
Managers (ORM)
Service/Support leads

Change Management/ Professional Development Leads

Lisa Weinberg
Patrica Sperry

*Core Team membership expected to rotate throughout the program as defined in the Change Management Plan

5.1 Program Leadership Roles

Program Steering Committee Members

Provide oversight to program and program projects to verify that the objectives meet the needs and align with strategic objectives of the University.

IaaS Governance Committee Members

Provide oversight to discussions and decisions made around the policies needed for the IaaS AWS solution program. Review and approve proposed policies, processes and standards resulting from program initiatives. Where appropriate, will work with the Program Manager and Change Management Lead on communication to campus.

Program Architects

Oversee and guide overall future state design to ensure integration with OIT technology strategy, cross-functional areas and other services within the OIT. The CloudFirst program impacts over 80% over IT services within OIT and across campus. These roles are to ensure overall integration and appropriate transition to supporting teams. Will lead and coordinate technical solutions with the core and extended team. Will work closely with Program and Project Manager(s) for the various program projects within the program.

Functional Lead

- Ensures the functional area(s) opportunity is being addressed by the solution
- Represents the Sponsor's interests & advocates for the Sponsor
- Manages Sponsor and Steering Committee members' expectations
- As functional area architect, ensures the right solution is delivered
- Leads the DevOps and cloud strategy for the migration into AWS

Technical Lead

- Involved in all projects and foundational infrastructure within program
- Accountable for overall technical architecture "fit" and managing their at-large AWS footprint
- Responsibility that the solution is built right and follows University and Standards & Architecture (S&A) standards and best practices
- Documentation of technical standards and infrastructure
- Leading effort to resolve technical issues.

Operations Lead

- Involved in all projects and foundational infrastructure within program
- Accountable for overall technical solution overall operational stability of the solution
- Responsibility that the solution operates right and follows University and Standards & Architecture (S&A) standards and best practices
- Validates and/or creates support and service operational documentation of infrastructure
- Leading effort to define operational controls.

Development Lead

- Responsible to driving development practices and standards
- Drive design and implementation of integration services
- Define and lead DevOps practices
- Champion and lead efforts around automation and scripting

ITIL Lead

- Works with technical and operations lead to follow ITIL adopted best practices
- Management of the service catalog of migrating services
- Coordination with Change Control to ensure successful Service Transition and Service Operation

Core/Expanded Team Members

Responsible for implementing and migrating IT services to the AWS IaaS infrastructure. Responsible for partnering with SaaS migrations that require AWS components. Responsible for execution at the domain/subject matter expertise level including non-technical roles

Program Manager

Responsible for execution of overall program plan. Keeps Sponsors and Steering Committee updated on program's progress. Provides oversight to all projects within the program and works with all project managers and migration coordinators to be informed of project's progress.

Migration Coordinators/Project Managers

Provide leadership in migrating services to IaaS AWS environment. Coordinators address less complex services. Duties primarily focus on service and support coordination, licensing and oversight of identified core team and service owner technical resources assigned. Project managers manage more complex services as sub-projects to the program in accordance with OIT Project Process.

Relationship & Migration Partners

- Overall responsibility for the relationship between OIT and the customer. Assists with requirements definition and testing. Liaison between the customer and OIT.
- Accountable for the delivery of the end-to-end service and/or subsequent offerings. This accountability slices across functional areas. Responsible for managing one or more services/offerings throughout their entire lifecycle. Instrumental in the development of service strategy and are responsible for the content of the service portfolio.

Change Management/Professional Development Leads

The following three main roles will be addressed by this role:

- Communication & Change Strategy – to campus and within OIT
- Message Development – to campus and within OIT
- Professional Development planning for impacted IT resources whose job duties are changing

Project Services Lead

Ensures University project methodology and processes are defined, documented, tailored, and followed. Leads effort in tailoring, documenting, & measuring project processes. Is the catalyst in resolving process issues. Mentors project team members on process.

5.2 Team Location

Cloud Central, ITC 114 (formally the IT Datacenter's operations control), has been renovated to support collaborative and configurable team space. This space will be used for the majority of all program work. Team members are expected to co-locate within the defined working times per their individual allocations. OIT staff working with the Cloud team are expected to work collaboratively and co-locate during technical hands-on efforts.

6 Program Change Management

1. Stakeholders – Those that are affected by the change.
 - a. Create stakeholders analysis of entire OIT staff by year (2015, 2016, 2017)
 - i. Rating by how will job be impacted
 - ii. Assess each individual - no training, specific or entire skill set changing
 - b. Matrix of impact and support in order to drive the change/communication/training
 - i. Define Champion Group
 - ii. Periodic meeting; influence resisters, information sharing, coaching training, open feedback
 - c. OIT SLT Leadership (Sponsor – Mike Chapple)
 - i. Change Management sponsorship training – Summer 2015
 - ii. Steering Committee Membership
 - d. OIT Managers
 - i. Change Management coaching training – Fall 2015 – Spring 2016
 - ii. Periodic Cloud First updates
 - iii. Steering Committee Membership
 - e. OIT staff
 - i. Change Management training – Fall - 2015
 - f. IT Directors
 - i. Periodic Cloud First updates
 - ii. Steering Committee Membership opportunity
 - g. Relationship & Migration Partners– managers in OIT
 - i. Champion Group – monthly meeting
 - ii. The Cloud First customer representation group
 - h. Campus
 - i. Service end-users
 - ii. Roadshows, infographic, AWS Meet-up
 1. IT Staff from:

- a. CRC
 - b. Mendoza
 - c. Library
 - d. Engineering & Science
- 2. Training – Training opportunities for IT staff that are affected by the change. Working in partnership with the OIT training group.
 - a. Essentials Training (1 day) – every 2-3 months – or as needed
 - b. AWS Architecting (3 day) – every 3 months – or as needed
 - c. Advanced Architecting (2 day) – take this 6 months after AWS Architecting – practical experience – every 6 months
 - d. Scripting (Windows and Linux)– every 2-3 months (Python/Ansible/Bota etc.)
 - e. Linux OS – 1 year ramp up
 - f. re:Invent – Oct 6-9, 2015 – Vegas – yearly
 - i. Attendee determination
 - g. AWS Certification – Ivy Tech or re:Invent (\$150, 50 questions) – need 1 year of practical knowledge – as requested by employee
 - h. Ruby on Rails – as needed
 - i. Change Management
 - j. DevOps Concepts
 - i. The Phoenix project Book – Recommended read – in lending library (for those that are working in a different way)
 - ii. Additional DevOps concept work as applied to the Ruby on Rails infrastructure and development stack (Scott Kirner, Brandon Rich and Tracy Weber)
- 3. Rotation Plan (every 6-9 months) – Rotation of OIT staff onto the CloudFirst team. Begin rotation during infrastructure pause.
 - a. Partnered with outgoing/permanent CloudFirst team member in specialty area.
 - b. Specialized training for OIT staff that may be displaced
 - i. Customized plan with Essentials and Architecting training
 - ii. Create training plans and dates - Spreadsheet of who/when
 - iii. Communicate with managers as to when rotation should happen
 - iv. Overlap
 - v. Take your service with you
 - vi. Train your replacement
 - vii. Lessons Learned
 - c. Identified training, as outlined above
- 4. Communication
 - a. Website – live by 4/2015
 - b. Infographic – 1/2015

- c. Technical “How To” – Documentation – 2/2015 and ongoing
 - d. Open Cloud First meeting – 9/2015 – every 4-6 weeks
 - e. OIT Cloud First newsletter – updates of services migrated, what is in pipeline – monthly (migration plan)
 - f. Road Shows – as requested
 - g. AWS Meet-up – community networking on AWS
5. Change Management Tools
- a. [Communication Plan](#) – in use
 - b. [Training Plan](#) – Plan will be post online and flexible to needs
 - c. Training Cost – Projected (link removed)
 - d. Weekly training/change team meetings
 - e. 2x month larger [change meeting](#)
 - f. Stakeholders Analysis – Impact/Support Matrix (specifically for OIT staff)

7 Financial Costs

7.1 Costs & Funding (*redacted*)

7.2 Cost Management/Optimization

As OIT shifts from capital expense (capex) physical infrastructure expenditures to operational expense (opex) ongoing operational spending, cost containment and optimization become increasingly important to insure proper oversight and fiscal stewardship. This is accomplished by having dedicated resources tasked with overseeing the spend, using the daily notifications provided by Cloudability, weekly reviews of identified cost optimization recommendations and monthly cost analysis meetings with representative leadership.

IT operational cost containment is summarized by “run only what you need when you need it”. There are several cost saving opportunities for cloud IT optimization:

Retirement

Before migration, each IT service is analyzed for possible retirement or service consolidation.

Architect for the cloud

Many IT services are sporadic in nature with peak usage and long lull periods. Registration, CIFs, end of year budget are examples of sporadic peak usage services. These cyclical and sporadic services will be load balanced and auto-scaled where possible to insure only the needed compute resources are running when they are needed.

On demand scheduling

Some services are only needed during traditional/extended business hours 8-5 / 7-7 M-F and can be shut down during evening, weekends, and holidays. This can save two thirds of the operational costs of a production compute instance. Many test and development systems can be only started when needed and shutdown as their default state. Where possible shutdown/startup schedules will be automated to insure runtime optimization. This includes a utility for the developer/tester to start the instance off-schedule if needed.

Rightsizing

Compute and storage resources should only be as large as needed to provide proper system response and customer service. Seldom used data can be moved to nearline storage. Oversized instances are expensive and wasteful. Larger instances will be periodically audited and validated to insure proper sizing.

Reserved instances

Reserved instances should be purchased when compute instances are properly sized and continually needed more than 50% of the time. An RI will save ~30% annually over on demand rates with 50% runtime the approximate break even point.

Audit and continual improvement

Ongoing life cycle, right sizing, scheduling and reservation purchases must be assessed regularly to insure properly sized and cost optimized operations.

8 Risks

8.1 Strategic Risks

The risks associated with cloud computing parallel those associated with running on-campus data centers. The primary difference is that, in a cloud model, we depend upon vendors for some risk mitigation activities.

While there are risks involved with cloud computing, we believe that the controls we have in place adequately mitigate those risks and that the use of cloud computing does not increase the University's risk profile. A more detailed risk assessment, including all current practices and contractual controls utilized, is available as a component of the [cloud strategy document](#) that Notre Dame jointly developed with our peer institutions.¹

Below are specific University of Notre Dame mitigation practices that differ from the referenced published materials. If any of these risks do occur, the current program schedule may need to be adjusted to push projects out into the future as long as the steering committee accepts that the total length of the program will likely increase

¹ Excerpt from [Notre Dame Cloud First Executive Briefing](#)

1. Infrastructure Security¹

From a security perspective, cloud computing customers must depend upon vendors as partners in a shared security model. In an IaaS approach, the University remains responsible for the secure configuration and maintenance of servers, just as we are on campus. The vendor, however, is responsible for physical security and the security of the underlying technical infrastructure. We have reviewed [AWS security practices](#) in detail and are confident that they meet or exceed the University's existing security requirements. The AWS cloud stores extremely sensitive information on behalf of customers that include the Central Intelligence Agency, financial institutions and the private sector. The presence of this information demands that AWS maintain the highest level of security controls at all of their facilities.

2. Regulatory Compliance¹

The complex nature of cloud services, combined with the fact that data may be stored, processed and transmitted using resources that are geographically distant from campus, introduces regulatory compliance issues. We have reviewed the compliance practices of AWS and have already certified it for use with University data classified at the Sensitive level. Our current AWS contract provides the necessary protections for handling FERPA records.

3. Data Storage and Transmission²

Each time sensitive information touches a new service, that exposure increases the attack surface for that information. Storing sensitive information in both cloud and on-premises infrastructure provides two potential environments for an attacker to exploit in an effort to gain access to the information. Encryption will be used to secure all transmissions of sensitive information over public networks. Encryption should be used to protect stored sensitive information, whether that information is stored in on-premises or cloud platforms, where it positively impacts security in a significant way. For Notre Dame, backups and highly sensitive information will be encrypted.

4. Disaster Recovery and Business Continuity (DR/BC)

Service level agreements (SLAs) provided by cloud vendors may not exceed or even meet the expectations of campus customers. In addition, when a single cloud provider is used, the institution becomes vulnerable to loss of data and/or services in the event that the provider suffers a catastrophic failure. Institutions must understand the SLAs offered by cloud providers and align them with legitimate business requirements of the institution. Our selected IaaS provider, Amazon, offers a 99.95% SLA for virtual machines and a 99.9% SLA for storage availability. Notre Dame has instituted additional controls for services which this is not sufficient (e.g. www.nd.edu) to increase availability, via the use of servers within multiple AWS regions. In the specific case of ND.edu, 3 availability zones (AZ) with 2 machines per AZs was implemented.

The risk associated with a catastrophic failure of AWS is of very low likelihood but with extremely high impact. IaaS environments are designed to be highly resilient and such a catastrophic failure, if it were to occur, would impact thousands of customers around the world and a substantial portion of the Internet.

² Excerpt from "Risk Assessment" section in the [Cloud Strategy for Higher Education: Building a Common Solution](#) (EDUCAUSE ECAR)

Institutions should, nevertheless, include this scenario in their disaster recovery planning. To protect against this risk, Notre Dame is taking a two-pronged approach. 1) Adopting the AWS Checklist on operational controls, tailored to Notre Dame needs and 2) Reviewing the DR/BC approach on a service by service basis. The Design Review Board (DRB)/IaaS Governance Committee will provide additional scrutiny to the plans as the common practice of “repeat what is currently in use today” may not be applicable due to infrastructure design differences.

5. *Culture Change*³

Shifting to a Cloud First strategy is a major organizational transformation that, to be successful, requires a significant culture change. Many deeply technical, highly valued employees can feel threatened and unsettled by this change. This cultural change manifests into three significant risks:

- 1) Fear, uncertainty and doubt (FUD) and need for new “Cloud skills” - Typically, the people whose career path will be most affected by the transition will have the strongest objection to the adoption of IaaS. Complicating this risk is inconsistent messaging up and down the management chain regarding the overall impact to OIT staff. To mitigate this risk, a comprehensive Program Change Management plan was developed, led by Lisa Weinberg from the User Transition group. A significant portion of that plan focuses on the professional development needs within the organization. OIT’s IT Professional Development leader, Patricia Sperry, is taking on the responsibility of working with OIT managers to assess needed skills, identify training needs and, if requested, assist with defining trajectories for staff.
- 2) “The way we’ve always done it” mindset - The cloud allows us to adopt a more agile and flexible approach to IT. The ease with which infrastructure configurations can be created and tested facilitates the ability for organizations to fail quickly, evaluate outcomes, refocus, and adjust. This is vital because we are in the early days of IaaS, and we expect the continued evolution of cloud vendors and their offerings. In the future, we may wish to move workloads between cloud vendors and avoid vendor lock-in. A “cloud mindset” implies that our systems are designed for transparent migration to take advantage of what will be increasingly competitive pricing between cloud vendors. Designing for cloud server and storage portability is significantly different from optimizing systems to run using an on-premises infrastructure. In addition, some of the tools and infrastructure we have depended on for on-premises solutions are ill-suited for IaaS.³ Two mitigations for this risk are 1) the creation of and absorption of the IaaS Governance Committee into DRB and 2) Structuring the program around a co-located, collaborative core team. All design and development approaches are discussed, vetted and testing through these avenues.
- 3) Speed of change in Higher Education – Traditionally change comes slowly to Higher Education institutions. This program is requiring change at a much faster pace than traditionally supported. In order to mitigate this risk, in addition to the comprehensive Program Change Management plan, a Change Team has been formed. This Change Team reviews current state of change, concerns,

³ “Culture Change” section in the [Cloud Strategy for Higher Education: Building a Common Solution](#) (EDUCAUSE ECAR)

execution of planned communications and other components of the plan. Working closely with Relationship & Migration Partners, this team will enable the program to quickly adapt to changing needs and provide a hands-on partnering mentality to offer both the institution at large and central OIT.

- 4) Quality of work performed using newly acquired skills – As staff learn new skill sets during the course of building out the IaaS infrastructure and migrating services, additional quality controls are needed to ensure appropriate service stability and end user functionality. This can be mitigated by increasing engagement of Quality Assurance team member to review testing approaches for new technologies, enforced review of all new tools through Cloud Services review and any agreed upon change control procedures. Additionally, the professional development represented by acquiring new skills is closely monitored by the professional development coordinator, Patricia Sperry, augmented by team mentoring of those with expertise in other engineering and administrative fields.
- 5) Users will also notice that cloud-based applications may have different performance characteristics than those hosted internally. Support and issue response will change as well if the support model of a cloud provider does not match the level of service we provided on our campuses. OIT will work with our campus partners to collaboratively determine tolerable performance levels with this general impact understanding

8.2 Program Risks

1. Traditionally, Notre Dame and the OIT have a risk averse culture that results in practices and tendencies focused more towards control versus flexibility/agility. Due to the nature of the work within the program and the desire to move in a more DevOps culture, more flexibility is needed. Mitigations to balance this risk:
 - a. Incorporate periodic (every 12-18 months) “pause and reflect” time to allow for needed refactoring of practices and processes.
 - b. Use our continuous improvement mindset to guide refactoring
 - c. Expand upon and leverage the DevOps mindset shift
 - d. Utilize the IaaS Governance committee to review new/changes to processes
 - e. Identify process owners and have fully documented processes, ideally with included value-add descriptions
 - f. Include Change Control in the team to identify opportunities to streamline the RFC process where appropriate.
2. This program provides a unique opportunity to evaluate every service that is migrated from the OIT Data Center. There is a risk of general assumptions that everything will migrate as fully cloud optimized or overlooking issues that should be addressed. While optimizing all is an ideal, this is not practical given the timeframe, resource limitations and relative priority of changes. Mitigations:
 - a. Optimization concentrates primarily along lines of service stability.
 - b. Focus and effort will be on automation, where it makes sense. This primarily includes routine and repeatable actions.
 - c. In general, O/S level - more automated, application level - less/no automation

- d. Where possible, automation changes will be focused on the baseline toolset so as to maximize the rate of return on the effort to automate.
3. Maintaining the appropriate amount of rigor towards the continuous improvement of significant decisions. Mitigations to balance this risk:
 - a. Process decisions: A Process owner identified who understands reasons for decisions and responsible for keeping it in control
 - b. Technology decisions: Consistent utilization of the IaaS Governance committee for final approval on all major technology decisions, appropriate vetting with Cloud First core team. This also include vetting with S&A, peer institutions, CSG, etc.
 - c. Service decisions: Service owners are responsible for service decisions and automations
4. One of the strengths of the program is the collaborative nature of the work, drawing upon the collective expertise of the core team. Executing work in isolation significantly decreases this potential and increases the risk for developing out of concurrence with the collective approach and direction. Mitigations to balance this risk:
 - a. Core team required co-location during collaborative working time.
 - b. Expanded team/service technologists work collaboratively with core team during the build processes.
 - c. Twice weekly standups with both the core and expanded team members to regroup on work in process.
 - d. Periodic S&A communications of updated or new standards/general guidelines for work in the IaaS environment
 - e. CloudFirst google group utilization for online discussions, requests and announcements.
5. The speed of change in AWS offers significant continuous improvement opportunity. Expectations around those changes in regards to evaluation and implementation must be managed accordingly. Mitigation approaches:
 - a. Refactor when it makes sense, following same technical decision mechanism described above (3.b)
 - b. Keep focus on the goals for the program - 80% of IT services in the cloud by end of 2017.
 - c. Evaluate features for need/urgency and defer non-urgent enhancements until optimization phase or periodic "pause and reflect" blocks, as appropriate
6. The current perception around the 2017 80% goal may result in team members sacrificing stability for speed, in order to meet the expected timeframe. Mitigations to balance this risk:
 - a. Continue to communicate that 2017 is a goal, not a mandate, without losing priority, momentum and focus
 - b. Operation & ITIL architects actively involved in all service migrations to provide additional service stability oversight
 - c. Require Service owner signoff before we are "done"
7. The initial compilation of the IT workloads (service offerings) list, demonstrated the high potential for additional unknown/newly discovered legacy service offerings. If/when these services are identified, the following mitigations would apply:
 - a. Adjust plan appropriately as they are discovered

- b. Frequent updates with S/C to shift as needed. This may include expanding the timeline
 - c. Kanban process to support agility of change and flowing the work
 - d. Identification of interfaces, contents of various platforms, etc
- 8. Legacy services that have limited to no service/support documentation potentially increases the amount of time to evaluate the current architecture as well as identification of any technical debt/issues to overcome. As a benefit to the University, services will be documented by the end of the migration. Mitigations to balance this risk:
 - a. Increase amount of service/support team member participation
 - b. Adjust timing expectations accordingly
 - c. Service owner signoff before we are “done”
 - d. Service owner defines needed documentation, including maximizing the use of auto-document features wherever possible.
- 9. Legacy services by the nature of technological improvement contain technical debt and the potential for architectural fragility. The program team will have to balance resolving weaknesses with migrating the service itself. Mitigations to balance this risk. of existing services
 - a. Optimization concentrates primarily along lines of service stability
 - b. Increase amount of service/support team member participation
 - c. Adjust timing expectations accordingly
 - d. Review needs service by service
 - e. Service owner signoff before we are “done”
- 10. The Banner ERP migration represents the largest service risk to the program. Banner migration requires the simultaneous migration of several key dependent services (Advance, Business Intelligence Platform, etc.)
 - a. Dedicated project manager assigned to the Banner project, working in concert with the project managers for the key dependent services and service owners.
 - b. Schedule other migrations earlier wherever possible, reducing the number of change variables and potential for split focus.
 - c. OIT GC prioritizing the project as High, thus providing the needed staffing and expectations regarding these efforts.
 - d. Review highly sensitive data controls with IGC early in the project
 - e. Execute a pilot project, potentially resulting in a duplicated Banner database in AWS prior to full Banner migration. This would provide non immediate transactional Banner data earlier to dependent services than waiting for the full Banner migration timeframe
- 11. Higher/other priorities requiring key resources
 - a. Frequent S/C meetings with representatives from Sr. Leadership Team
 - b. Working in partnership with scheduler and resource managers to balance/adjust resources as needed.
 - c. Utilize the flexibility Kanban offers by flowing the work with regards to available/deferred staffing.

- d. Re-evaluating resource needs as each sub-project approaches key project process checkpoints: Upon project approval by OIT GC, project planning by program Steering Committee and Design Review by Design Review Board.
12. Campus buy-in and balancing the resource needs from campus facing units with campus facing project demand for those resources
- a. Engage Migration and Relationship Partners periodically to gauge the pulse of the campus partners
 - b. Provide partners with information and resources for campus conversations
 - c. Provide a clearly documented financial model
 - d. Executive buy-in communicated
 - e. CITS large budget ask for additional resources towards eliminating project backlog

9 Program Constraints and Assumptions

9.1 Assumptions

- Assumption: The program level work will be managed using a Kanban approach and utilizing the Trello.com tool (<https://trello.com/b/dl1oyirC/cloud-first>). Sub-projects will be managed by whatever that project manager selects to meet the needs of the customer, team and project scope.
- Assumption: Timing for specific services to migrate will shift throughout the course of the program.
- Assumption: AWS remains Notre Dame's IaaS vendor for the duration of the program
- Assumption: Enough of our IT services' licenses will accommodate using AWS to make up the total 80% when coupled with other SaaS provided services.

9.2 Constraints

- The work for the program and its subsequent sub-projects must interweave within ongoing campus demand. As such and where possible, the migrations are embedded in system upgrades or new system installations. Where not possible, the core team works in conjunction with the service owner team to coordinate testing schedules based on priority and timing needs.
- Timing around some of various sub-projects/migrations is constrained around the academic calendar and/or related migrations. If there are delays, the domino effect will impact the subsequent related efforts. In the event that occurs, the entire program mix will be looked at to determine what shuffling around can be done to keep momentum moving forward.

10 Program Level Resources/Timeframe

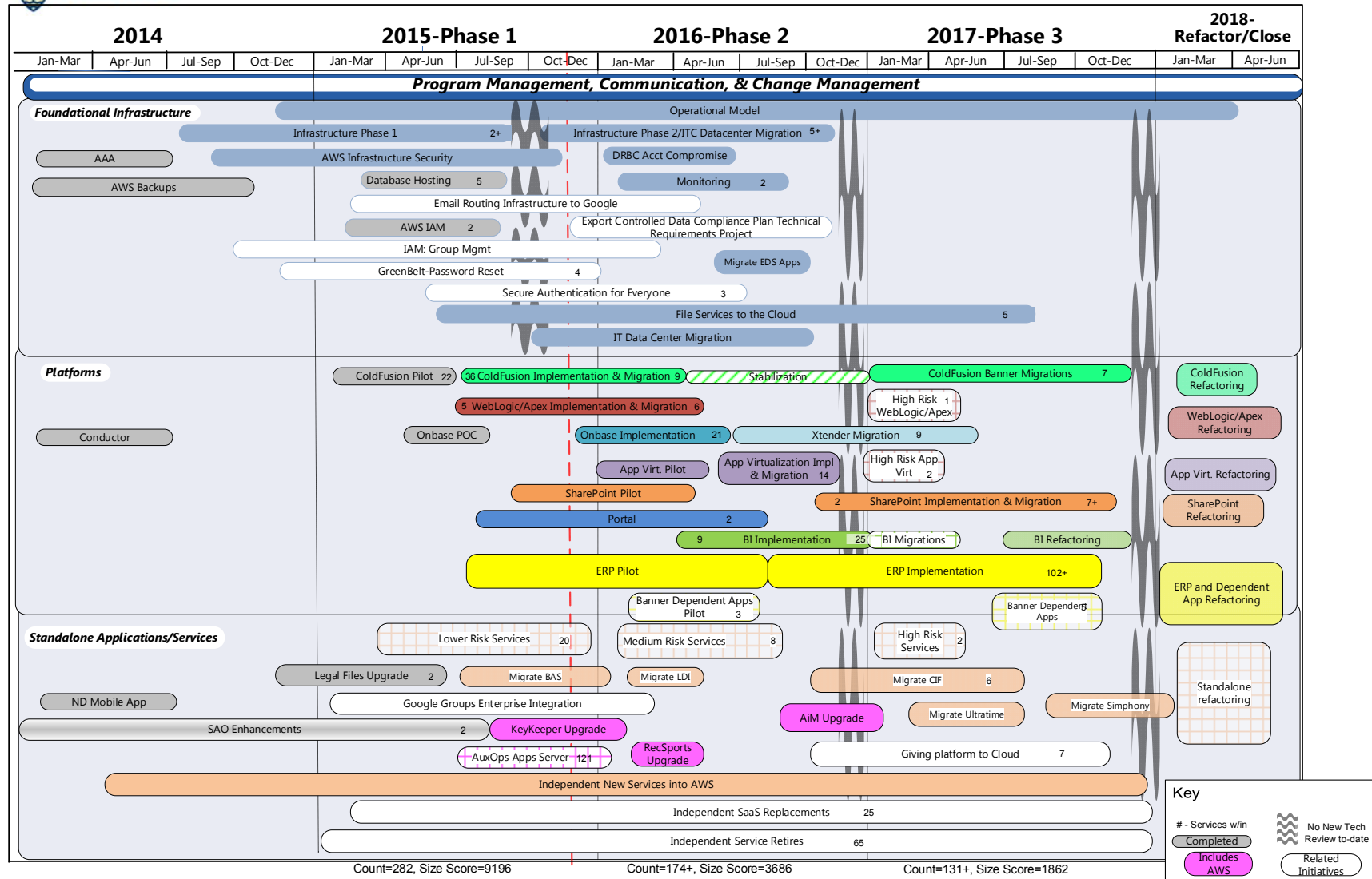
Role	Quarter	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Total
AppServ-EntAppsAppAdmin		0.36	0.39	0.38	0.10	0.09	0.09	0.09	0.09	0.16	0.21	0.21	0.21	0.21	0.38	0.38	3.35
AppServ-SharePointAppAdmin		0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
AuxOps-ORM		0.05	0.04	0.02	0.02	0.02	0.10	0.02	0.02	0.02	0.02	0.05	0.04	0.02	0.02	0.02	0.51
AuxOps-Tech		0.00	0.00	0.00	0.04	0.06	0.06	0.06	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.29
BA/QA-Analyst		0.05	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
BI-ORM		0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.39
CA-ORM		0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.39
CA-PM		0.00	0.00	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
CnfgMgmt-Spclst		0.36	0.35	0.38	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.02	0.02	2.29
CommSrv-Messaging		0.36	0.39	0.38	0.30	0.25	0.27	0.35	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	5.34
Core-ITFac		0.36	0.78	1.15	1.14	0.89	0.92	0.92	0.91	1.00	1.15	1.15	1.15	1.15	1.15	0.96	14.80
Core-ORM		0.11	0.12	0.09	0.05	0.06	0.05	0.06	0.02	0.08	0.12	0.12	0.12	0.12	0.12	0.12	1.33
Core-Storage		0.05	0.05	0.05	0.05	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.70
Core-VM		0.41	0.57	0.43	0.71	0.69	0.75	0.76	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.76	10.39
CTS-Exec		0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.73
DBS-OracleDBA		0.36	0.29	0.08	0.10	0.15	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.38	0.38	2.48
DBS-SQLDBA		0.36	0.29	0.14	0.44	0.44	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	5.47
DevOps-AppAdmin		0.18	0.39	0.38	0.19	0.31	0.17	0.23	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	4.89
DocMgmt-Developer		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
DocMgmt-ORM		0.00	0.00	0.02	0.02	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.23
DSS3-ORM		0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
EAI-AppArch		0.36	0.29	0.25	0.28	0.27	0.29	0.29	0.28	0.29	0.29	0.29	0.29	0.29	0.29	0.29	4.35
EmpFin-Developer		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EmpFin-ORM		0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.39
EntArch-App-Consultant		0.55	0.55	0.56	0.55	0.55	0.58	0.58	0.55	0.55	0.55	0.38	0.55	0.55	0.58	0.38	8.02
EntArch-Infra-Consultant		0.55	0.59	0.58	0.52	0.45	0.48	0.40	0.43	0.46	0.55	0.55	0.55	0.55	0.58	0.38	7.63
FinSrvs-ORM		0.11	0.12	0.12	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	1.73
IAM-Consulting		0.17	0.10	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
IAM-Developer		0.27	0.32	0.46	0.41	0.45	0.47	0.43	0.43	0.47	0.47	0.47	0.47	0.47	0.47	0.47	6.56
InfoSec-Consulting		0.24	0.25	0.27	0.14	0.30	0.31	0.40	0.42	0.45	0.45	0.45	0.45	0.45	0.45	0.45	5.48

Role	Quarter	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	Apr-18	Total
IS-Arch		0.36	0.43	0.20	0.19	0.11	0.07	0.07	0.05	0.07	0.07	0.07	0.07	0.07	0.07	0.07	1.96
IS-Exec		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.69
ITSD-Exec		0.11	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.45	0.07	0.07	0.07	0.07	0.07	0.07	1.47
NtwkSrvs-NetEng		0.34	0.23	0.40	0.36	0.27	0.22	0.18	0.18	0.22	0.25	0.26	0.28	0.28	0.05	0.05	3.58
Platform-Developer-Mac		0.00	0.00	0.09	0.22	0.09	0.07	0.03	0.06	0.13	0.17	0.17	0.17	0.17	0.17	0.17	1.71
Platform-ORM		0.05	0.05	0.09	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	1.56
Platform-SysAdmin		0.72	0.72	0.75	0.76	0.46	0.42	0.39	0.39	0.39	0.39	0.65	0.78	0.78	0.76	0.57	8.95
PMO-PM		0.36	0.36	0.35	0.41	0.44	0.36	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	5.71
Student-Developer		0.00	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Student-ORM		0.07	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.40
TnT-Spclst		0.15	0.16	0.16	0.15	0.05	0.05	0.05	0.05	0.05	0.12	0.16	0.16	0.16	0.16	0.06	1.64
US-Exec		0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.73
US-OITProfDevSpclst		0.14	0.11	0.16	0.15	0.15	0.16	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.06	2.17
Total		8.05	8.42	8.53	7.94	7.40	7.14	7.13	7.23	8.09	8.17	8.33	8.63	8.62	8.78	7.80	120.26

11 Program Roadmap

CloudFirst Program

November 20, 2015



12 Prior to Phase 1 Projects-Pilot AWS Objectives

12.1 AAA High Availability for Cloud Services (Completed) - Infrastructure

Design, test and implement a HA central authentication reference for off campus access in an Infrastructure as a Service (IaaS) environment (AWS). This will include following the commissioning, decommissioning, patching and monitoring processes which are currently in place for IaaS supported services and where needed modify or add life cycle processes. A security scan by InfoSec will also be performed. Accounting procedures will also be addressed. Pilot goals:

- Redundancy for campus and public cloud services
- Core IaaS governance
- RDS database platform
- Significant standards development

Project Completed: August 2014

12.2 AWS Backups (Completed) - Infrastructure

Evaluate what architecture and technology offerings best meet our operational backup needs while providing potential capital and operational cost saving and/or avoidance. Panzura service selected and implemented and all remaining NetBackup managed backups moved. Pilot goals:

- Engaged AWS expansion partners
- “Data mover” appliance (Panzura)
- S3 Storage platform
- Potential significant cost avoidance (\$1.1M over 5 year)
- Cloud based backups

Project Completed: November 2014*

*post implementation – due to issues with time lagging, the tool was taken offline and reconfigured. It will be re-implemented once the residual backup data from AWS is purged.

12.3 Conductor migration to AWS from Rackspace (Completed) - Platforms

Migrate the existing University Communications (UC) Conductor web sites from Rackspace to Amazon Web Services (AWS). Conductor is an in-house developed web content management system developed and employed by UC. UC manages over 300 websites, including oit.nd.edu with this platform. Pilot goals:

- Expand upon www.nd.edu
- Customer success
- Managed by Marketing and Communications
- RDS database platform
- Cost savings realized

Project Completed: May 2014

12.4 MobileND: Campus Mobile App (Completed) – Standalone Services

Implement an institutional mobile app platform (Modo Labs’ Kurogo platform selected) in AWS, providing campus a framework for delivering both responsive Web and device-native apps. Pilot goals:

- New AWS approaches

- Mobile platform
- Managed by ADM
- Manual vs. Auto-scaling
- Rapid deployment

Project Completed: May 2014

13 Infrastructure Projects

13.1 CloudFirst: AWS Infrastructure Security (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: AWS Infrastructure Security	OIT	CF Infrastructure, CF-IaaS/PaaS, CloudFirst, OIT	90-Closed	90-Complete	Low Risk	Advanced	Approved	9/23/2014	Guidance Council

Project Description

Description

This project is to implement infrastructure security controls for AWS and to establish processes to maintain those controls.

Business Case

Key Business Drivers & Deliverables

The OIT will be moving a large portion of its data center services to AWS. Controls will be needed to ensure that those services are not subject to compromise, failure, or exposure. The main deliverable of this project will be a roadmap of how the OIT will secure its AWS infrastructure and the implementation of that roadmap. In addition, processes will be established to maintain the security infrastructure.

Constraints

Known Constraints and Interdependencies

1. Constraints:
 - a. Time - Some of Notre Dame's production services already exist in Amazon Web Services and the Office of Information Technology has committed to moving 80% our service offerings to AWS by the end of 2017.
 - b. Money – There is no budget established for this project
2. Assumptions:
 - a. Amazon Web Services continues to be available for the next 3 years.
 - b. Amazon Web Services will continue adding services that will have to be

Project Dependencies

Other Customers Impacted

accounted for in Notre Dame's overall Security Program.

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			940	1,408.52	150%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Kolin Hodgson	Williams, Jason	Preciado, Jaime		Williams, Jason	Sorensen, Michelle	Chapple, Mike	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	9/23/2014	12/8/2014	12/19/2014	12/18/2014	No
III Execution Phase	Complete	10/1/2014	9/30/2015	9/30/2015	10/13/2015	No
IV Operationalize Phase	Complete	10/14/2015	10/30/2015	10/30/2015	11/2/2015	No

13.2 CloudFirst: Oracle Database Hosting (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Oracle Database Hosting	OIT	CF-AWS, CloudFirst, OIT	90-Closed	90-Complete	Low Risk	Standard	Approved	3/25/2015	Guidance Council

Project Description

Business Case

Description

This project is to develop a comprehensive Oracle database hosting strategy for AWS and to implement both a standalone and highly-available Oracle database environments to host services that will be migrating to AWS.

Business Objectives

In support of the Cloud First initiative, it is necessary to implement a database hosting environment for services that will be migrating to AWS.

Key Business Drivers & Deliverables

1. Design, develop and document an AWS Oracle database hosting strategy. The deliverables for this scope item will be:
 - a. A working and documented high availability Oracle database environment in AWS.
 - b. A working and documented standalone Oracle database environment in AWS.
 - c. A working and documented directory service (OID or EDS)
 - d. Cloud Formation and/or Ansible scripts to provision the defined database environments.
 2. Design, develop and document an AWS Oracle Monitoring strategy. The deliverable for this scope item will be:
 - a. A working and documented Oracle Enterprise Manager (OEM) implementation in AWS.
 3. Design, develop and document an AWS Oracle database backup and recovery strategy. The deliverable for this scope item will be:
 - a. A working and documented RMAN database backup to S3 and consequently to Glacier from the implemented Oracle databases.
 4. Develop and document guidelines for self-service deployment of Oracle databases in AWS. The deliverable for this scope item will be:
 - a. A needs assessment questionnaire for Cloud database hosting (EC2, RDS).
 - b. General deployment guidelines for deployment to RDS.
- Out of Scope
- Oracle database deployments to RDS.
 - Oracle database deployments to non-RHEL operating systems.

Constraints
Known Constraints and Interdependencies Project Dependencies Other Customers Impacted
Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			547	90.65*	17%

*not all hours logged

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Frederick Nwanganga	Nwanganga, Frederick	Tiwari, Raj		Nwanganga, Frederick	Sorensen, Michelle	Seidl, David	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	3/2/2015	4/17/2015	5/19/2015	5/20/2015	No
III Execution Phase	Complete	4/6/2015	9/8/2015	9/8/2015	9/10/2015	No
IV Operationalize Phase	Complete	8/3/2015	9/21/2015	10/16/2015	10/15/2015	No

13.3 CloudFirst: SQL Server Database Hosting (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: SQL Server Database Hosting	OIT	CF-AWS, CloudFirst, OIT	90-Closed	90-Complete	Low Risk	Standard	Approved	3/25/2015	Guidance Council

Project Description

Description

This project is to develop a comprehensive Microsoft SQL Server database hosting strategy for AWS and to implement both a standalone and highly-available SQL Server database environments to host services that will be migrating to AWS.

Business Objectives

In support of the Cloud First initiative, it is necessary to implement a database hosting environment for services that will be migrating to AWS.

Business Case

Key Business Drivers & Deliverables

- Design, develop and document an AWS SQL Server database hosting strategy. The deliverables for this scope item will be:
 - A documented high availability SQL Server database environment in AWS.
 - A working and documented standalone SQL Server database environment in AWS.
 - Cloud Formation and PowerShell scripts to provision the defined database environments.
- Design, develop and document an AWS SQL Server Monitoring strategy. The deliverable for this scope item will be:
 - A working and documented Idera Diagnostic Monitor

implementation in AWS.

3. Design, develop and document an AWS SQL Server database backup and recovery strategy. The deliverable for this scope item will be:

a. A working and documented SQL database backup to S3 and possibly to Glacier from the implemented SQL Server databases.

4. Develop and document guidelines for deployment of SQL Server databases in AWS. The deliverable for this scope item will be:

a. General deployment guidelines and considerations for in-house EC2 deployments.

b. Recommended deployment guidelines and considerations for self-service deployment to RDS.

Out of Scope

- A functional SQL Server database deployment to RDS.
- All SQL server deployments will be in MS SQL 2012 only. We will not be considering MS SQL 2014 at this point.
- A running highly available SQL Server database in AWS.

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			365	319.19	87%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Frederick Nwanganga	Nwanganga, Frederick	Grover, John		Nwanganga, Frederick	Sorensen, Michelle	Seidl, David	Cloud

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	3/2/2015	4/17/2015	5/20/2015	5/20/2015	No
III Execution Phase	Complete	4/13/2015	7/28/2015	8/14/2015	8/3/2015	No
IV Operationalize Phase	Complete	8/4/2015	8/21/2015	9/11/2015	9/25/2015	No

13.4 CloudFirst: AWS IAM (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: AWS IAM	OIT	CF-AWS, CloudFirst, OIT	90-Closed	90-Complete	Low Risk	Standard	Approved	12/8/2014	Guidance Council

Project Description

Description

Integrate AWS IAM services with ND IAM service. Scope to include:

Business Case

Key Business Drivers & Deliverables

Drivers: CloudFirst program and enterprise management over Amazon resources

Deliverables:

- 1) Shibboleth integration of all AWS Accounts
- 2) establishment of naming conventions
- 3) reporting on compliance and enforcement
- 4) access logging including alerting and reporting
- 5) access roles and policies
- 6) process and work flow for requesting new IAM resources
- 7) extension of credential store to offer enterprise AuthN to AWS resources (AD, CAS, multi-factor, Kerberos, etc.)
- 8) evaluate AWS directory services and how to replicate AD

Constraints

Project Resource Usage

Known Constraints and Interdependencies
Project Dependencies
Other Customers Impacted
Project Cost
Annual Recurring Cost
Spend to Date
OIT Hrs
Actual Hours
% Burn - Hrs

425 375.75 88%

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Don Padgett	Decker, Michele	Owens, Derek	Decker, Michele	Decker, Michele	Padgett, Don	Seidl, David	Cloud First SC members

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customer, if Funding Source is Split	Budget Funding Comments

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	1/26/2015	5/5/2015	5/5/2015	5/5/2015	No
III Execution Phase	Complete	5/6/2015	8/14/2015	8/14/2015	8/14/2015	No
IV Operationalize Phase	Complete	8/17/2015	8/31/2015	8/31/2015	8/31/2015	No

13.5 CloudFirst: Windows Server Monitoring

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Windows Server Monitoring	OIT	CF-AWS, CloudFirst, OIT	70-Proposed	10-Approval	Low Risk	Standard			

Project Description
Description

This project will review the current approach to monitoring Windows servers regardless of location. This project will establish monitoring objectives, evaluate SCOM, and look into possible alternatives.

Business Case
Key Business Drivers & Deliverables

To support the Cloud First strategy.

Windows monitoring will be provided to servers regardless of location.

Windows monitoring objectives will be documented.

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	BIT Hrs	Actual Hours	% Burn - Hrs
			285	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	BIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Chris Fruehwirth				Fruehwirth, Chris	Sorensen, Michelle	Seidl, David	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	2/2/2016		3/17/2016		No
III Execution Phase	Not Started	3/18/2016		5/26/2016		No
IV Operationalize Phase	Not Started	5/27/2016		6/22/2016		No

Project Staffing by Role

	2/1/2016	3/1/2016	4/1/2016	5/1/2016	6/1/2016	Totals
Platform-Developer-Mac	10	10	10	10	10	50
Platform-Developer-Windows	20	20	20	20	20	100

Platform-SysAdmin	25	25	25	25	25	125
PMO-PM	1	1	1	1	1	5
PMO-PSL	1	1	1	1	1	5
Totals	57	57	57	57	57	285

13.6 CloudFirst: Linux Server Monitoring

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Linux Server Monitoring	OIT	CF-AWS, CloudFirst, OIT	70- Proposed	10- Approval	Low Risk	Standard			

Project Description

Description

This project is to review Linux monitoring infrastructure location and review if the hybrid model is appropriate. Implement the appropriate model.

Business Case

Key Business Drivers & Deliverables

To support the Cloud First strategy.

Determining appropriate Linux monitoring presence for onsite and AWS services.

Deploy the determined solution.

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			300	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Chris Fruehwirth				Fruehwirth, Chris	Sorensen, Michelle	Seidl, David	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	2/1/2016		3/16/2016		No
III Execution Phase	Not Started	3/17/2016		8/5/2016		No
IV Operationalize Phase	Not Started	8/8/2016		8/31/2016		No

Project Staffing by Role

	2/1/2016	3/1/2016	4/1/2016	5/1/2016	6/1/2016	7/1/2016	8/1/2016	Totals
Platform-SysAdmin	20	20	20	20	20	20	20	140
Platform-VOIP	25	25	20	20	20	20	20	150
PMO-PSL	1	1	1	1	1	1	1	7
Totals	46	46	41	41	41	41	41	297

13.7 CloudFirst: DRBC-Account Compromise Recovery

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: DRBC-Account Compromise Recovery	OIT	CF-AWS, CloudFirst, OIT	70-Proposed	10-Approval	High Risk	Advanced			

Project Description

Business Case

Description

Document the Answers to these questions with regard to AWS recoverability:
 -How do we prepare for the situation where the DCND account is compromised?
 -What do we do to recover when our DCND account is compromised?
 -Determine responsibilities for these activities
 -How are we going to test the recovery above?
 Test the recovery for representative scenarios
 Prepare major dependency list for performing the recovery (with the knowledge that in the event of such a disaster senior leadership will need to set priorities on specific services at that time
 Identify owner of Disaster Recovery (one person)

Key Business Drivers & Deliverables

CloudFirst Strategy and University's BIA requirements

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			1200	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Shane Creech	Kirner, Scott			Kirner, Scott	Sorensen, Michelle	Seidl, David	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	1/4/2016		1/29/2016		No

III Execution Phase	Not Started	2/1/2016		5/20/2016		No
IV Operationalize Phase	Not Started	5/23/2016		6/20/2016		No

Project Staffing by Role

	1/1/2016	2/1/2016	3/1/2016	4/1/2016	5/1/2016	6/1/2016	Totals
AppServ-EntAppsAppAdmin	10.00	20.00	40.00	40.00	40.00	10.00	160.00
CA-Developer	5.00	10.00	20.00	20.00	20.00	10.00	85.00
Core-VM	4.00	4.00	4.00	4.00	4.00	4.00	24.00
DBS-OracleDBA	10.00	20.00	40.00	40.00	40.00	10.00	160.00
DBS-SQLDBA	10.00	20.00	40.00	40.00	40.00	10.00	160.00
IAM-Consulting	4.00	4.00	4.00	4.00	4.00	4.00	24.00
InfoSec-Consulting	4.00	4.00	4.00	4.00	4.00	4.00	24.00
NtwkSrvs-NetEng	4.00	4.00	4.00	4.00	4.00	4.00	24.00
Platform-SysAdmin	20.00	40.00	80.00	80.00	80.00	20.00	320.00
PMO-PM	16.00	16.00	16.00	16.00	16.00	16.00	96.00
PMO-PSL	4.00	4.00	4.00	4.00	4.00	4.00	24.00
Student-Developer	5.00	10.00	20.00	20.00	20.00	10.00	85.00
Totals	96.00	156.00	276.00	276.00	276.00	106.00	1186.00

13.8 CloudFirst: Migrate EDS Apps

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Migrate EDS Apps	OIT	CF-AWS, CloudFirst, OIT	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Business Case

Description

Key Business Drivers & Deliverables

Rewrite and move EDS Apps to host in Amazon

Move and enhance the functionality of maintaining directory profile information.

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	BIT Hrs	Actual Hours	% Burn - Hrs
			220	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	BIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Michele Decker			Decker, Michele	Decker, Michele	Sorensen, Michelle	Seidl, David	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	5/2/2016		5/27/2016		No
III Execution Phase	Not Started	5/31/2016		8/9/2016		No
IV Operationalize Phase	Not Started	8/10/2016		8/31/2016		No

Project Staffing by Role

5/1/2016 6/1/2016 7/1/2016 8/1/2016 Totals

IAM-Consulting	10	4	4	2	20
IAM-Developer	34	56	52	8	150
IAM-ORM	10	8	8	8	34
PMO-PM	2	2	2	2	8
PMO-PSL	2	2	2	2	8
Totals	58	72	68	22	220

13.9 CloudFirst: Migration of File Services to the Cloud

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Migration of File Services to the Cloud	OIT	CF-AWS, CF-SaaS/PaaS/Retire, CloudFirst, OIT	20-Active	20-Planning	High Risk	Advanced	Approved, conditionally		Guidance Council

Project Description

Description

Migration of file services away from locally provisioned services to existing cloud services. The project's goal will be to move all NetFile content and AFS content off of NetApp filers to cloud services Box and/or Google and move CorpFS content to a possible 3rd cloud option to reduce our reliance on NetApp filers

Business Case

Key Business Drivers & Deliverables

1. Desire to standardize/reduce the file collaboration services offered to campus
2. Move file services off locally provisioned hardware to avoid replacement
3. Enhance file access and collaborations by making them more easily accessible by mobile devices

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OID Hrs	Actual Hours	% Burn - Hrs
			1841	138.50	8%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OID Relationship Manager	Project Services Lead	Sponsor	Steering Committee
John Kelly	Kelly, John	Anderson, Michael	Kelly, John	Kelly, John	Hayward, Sharon	Alexander, Mike	- tbd during planning phase

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Open	6/1/2015		11/30/2015		No
III Execution Phase	Not Started	12/1/2015		8/22/2017		No
III.a Go Live 1	Not Started	1/11/2016		1/17/2016		No
III.b Go Live n	Not Started	3/6/2016		3/12/2016		No
IV Operationalize Phase	Not Started	8/23/2017		9/19/2017		No

Project Staffing by Role

	6/1/2015	7/1/2015	8/1/2015	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	2/1/2016
AuxOps-DSS-Support						4.00	4.00	4.00	4.00
AuxOps-ORM	4.00	2.00	2.00						
Core-ORM	20.00	20.00	20.00	10.00	4.00	4.00	4.00	4.00	4.00
Core-Storage	24.00	24.00	39.00	20.00	80.00	80.00	50.00	80.00	80.00
DSS1-ORM	4.00	2.00	2.00						

DSS1-Support						20.00	20.00	20.00	20.00
DSS2-ORM		4.00	2.00						
EntArch-App-Consultant	2.00	2.00	2.00						
EntArch-Infra-Consultant	2.00	2.00	2.00						
ESS-ORM		4.00	2.00						
HelpDsk-ORM		4.00	1.00						
HelpDsk-Support							2.00	4.00	4.00
IAM-Consulting								3.00	3.00
IAM-Developer								10.00	30.00
IAM-ORM		4.00	2.00						
Mktg&Comm-Spclst									8.00
PMO-PM	4.00	4.00	22.00	2.00	2.00	2.00	2.00	2.00	2.00
ProdServ-ProductManager	25.00	25.00	50.00	25.00	60.00	60.00	40.00	60.00	60.00
TnT-ORM	4.00	2.00	2.00						
TnT-Spclst						4.00	4.00	8.00	8.00
US-Exec	4.00	2.00	2.00						
Totals	93.00	101.00	150.00	57.00	146.00	174.00	126.00	195.00	223.00

3/1/2016 4/1/2016 5/1/2016 6/1/2016 7/1/2016 8/1/2016 9/1/2016 Totals

AuxOps-DSS-Support	4.00	8.00	8.00	4.00	4.00			44.00
AuxOps-ORM								8.00
Core-ORM	4.00	4.00	4.00	4.00	4.00	4.00	4.00	118.00
Core-Storage	80.00	80.00	80.00	80.00	80.00	80.00	30.00	987.00
DSS1-ORM								8.00
DSS1-Support	20.00	40.00	40.00	20.00	20.00			220.00
DSS2-ORM								6.00
EntArch-App-Consultant								6.00
EntArch-Infra-Consultant								6.00
ESS-ORM								6.00
HelpDsk-ORM								5.00

HelpDsk-Support	4.00	4.00	4.00	4.00	4.00			30.00
IAM-Consulting	3.00							9.00
IAM-Developer	30.00	10.00	4.00	2.00	2.00			88.00
IAM-ORM								6.00
Mktg&Comm-Spclst	8.00	8.00	4.00	4.00	4.00			36.00
PMO-PM	2.00	2.00	2.00	2.00	2.00	2.00	2.00	56.00
ProdServ-ProductManager	60.00	60.00	60.00	60.00	60.00	60.00	20.00	785.00
TnT-ORM								8.00
TnT-Spclst	8.00	4.00	4.00	4.00				44.00
US-Exec								8.00
Totals	223.00	220.00	210.00	184.00	180.00	146.00	56.00	2484.00

13.10 CloudFirst: ITC Datacenter Migration

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: ITC Datacenter Migration	OIT	CF-IaaS/PaaS, CloudFirst, OIT	20-Active	20-Planning	High Risk	Advanced	Approved	11/5/2015	Guidance Council

Project Description

Description

Decouple major services from NetApp storage and migrate to DRNI facility.

VMs
End-user Space
DBs, Oracle and MS SQL
Servers

Business Case

Key Business Drivers & Deliverables

Eliminate high cost of NetApp maintenance and prevent new spending in aging and increasingly fragile ITC Datacenter facility.

Constraints

Known Constraints and Interdependencies

Project Dependencies

Other Customers Impacted

Athletics, CRC, Engineering and Science Computing,
Hesburgh Libraries

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			1800	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Shane Creech				Creech, Shane	Padgett, Don	Alexander, Mike	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	9/23/2015		1/29/2016		No
III Execution Phase	Not Started	2/1/2016		7/29/2016		No
IV Operationalize Phase	Not Started	8/1/2016		9/23/2016		No

Project Staffing by Role

	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	2/1/2016	3/1/2016	4/1/2016	5/1/2016
Core-ITFac		4.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Core-ORM	2.00	4.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Core-Storage			60.00	60.00	60.00	60.00	60.00	60.00	60.00
Core-VM			40.00	40.00	40.00	40.00	40.00	40.00	40.00
DBS-OracleDBA			4.00	4.00	4.00	4.00	4.00	4.00	4.00

DBS-SQLDBA			4.00	4.00	4.00	4.00	4.00	4.00	4.00
NtwkSrvs-NetEng			4.00	20.00	20.00	20.00	20.00	20.00	20.00
Platform-SysAdmin			4.00	4.00	4.00	4.00	4.00	4.00	4.00
PMO-PSL	2.00	2.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Totals	4.00	10.00	180.00	196.00	196.00	196.00	196.00	196.00	196.00

	6/1/2016	7/1/2016	8/1/2016	9/1/2016	Totals
Core-ITFac	40.00	40.00	6.00		370.00
Core-ORM	20.00	20.00	20.00	20.00	226.00
Core-Storage	60.00	60.00			540.00
Core-VM	40.00	40.00			360.00
DBS-OracleDBA	4.00	4.00			36.00
DBS-SQLDBA	4.00	4.00			36.00
NtwkSrvs-NetEng	8.00	8.00			140.00
Platform-SysAdmin	4.00	4.00			36.00
PMO-PSL	4.00	4.00	4.00	4.00	48.00
Totals	184.00	184.00	30.00	24.00	1792.00

14 Platform Projects

14.1 CloudFirst: Cold Fusion Cloud Analysis and Windows 2012 Upgrade (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Cold Fusion Cloud Analysis and Windows 2012 Upgrade	OIT	CF-AWS, CloudFirst, OIT	90-Closed	90-Complete	Low Risk	Standard	Approved	2/23/2015	Guidance Council

Project Description
Description

- 1) Migrate the ColdFusion environments on Windows 2003 to Windows 2012
- 2) Complete an inventory of Cold Fusion applications including any barriers to moving to CF11, when they may be able to be replaced with SaaS, and what the SaaS target is
- 3) Analyze/Determine candidate platforms from the various possibilities to move Cold Fusion applications to the Cloud, pilot one CF application in each candidate platform, including IaaS (Amazon) or PaaS (Adobe partners and others), complete cost/benefit analysis

Business Case
Key Business Drivers & Deliverables

Windows 2003 end of life
Cold Fusion platforms at or near end of support (CF8 and CF9)
Cloud First initiative

Constraints
Known Constraints and Interdependencies

Coordination with Windows 2003 EOL project for timing/approach updates

Project Dependencies
Other Customers Impacted
Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			334	262.75	79%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Devin Collins	Collins, Devin	Reck, Dan	Reck, Dan	Kirner, Scott	Sorensen, Michelle	Seidl, David	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	1/13/2015	1/30/2015	2/13/2015	2/11/2015	No

III Execution Phase	Complete	2/9/2015	6/29/2015	7/2/2015	7/8/2015	No
IV Operationalize Phase	Complete	6/30/2015	7/15/2015	7/31/2015	7/30/2015	No

14.2 CloudFirst: Cold Fusion Implementation and Migration

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Cold Fusion Implementation and Migration	OIT	CF-AWS, CloudFirst, OIT	20-Active	30-Execution	Low Risk	Standard	Approved	4/22/2015	Guidance Council

Project Description

Description

Move all Cold Fusion Services to cloud deployment platform (some higher risk applications may be deferred until after/during Banner migration and will be addressed separately)
Includes all deployment and operational controls

Business Case

Key Business Drivers & Deliverables

Support Cloud First Strategy

Constraints

Known Constraints and Interdependencies

Project Dependencies

Other Customers Impacted

CloudFirst: Oracle Database Hosting

Campus partners with ColdFusion applications

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			2000	73.50	5%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Devin Collins	Kirner, Scott	Reck, Dan		Kirner, Scott	Sorensen, Michelle	Seidl, David	CloudFirst Steering Committee

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	7/27/2015	9/10/2015	9/10/2015	9/10/2015	No
III Execution Phase	Open	9/11/2015	10/31/2017	10/31/2017		No
III.a Go Live - environment operations	Not Started	11/2/2015	11/25/2015	11/25/2015		No
III.b Go Live - DBs for migrated apps	Not Started	12/1/2015	12/18/2015	12/18/2015		No
III.c Go Live - Migrate & Upgrade apps	Not Started	12/1/2015	9/29/2017	9/29/2017		No
IV Operationalize Phase	Not Started	11/1/2017	12/14/2017	12/14/2017		No

Project Staffing by Role

OIT Role	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16
Student-ORM		2							
AppServ-EntAppsAppAdmin	24	24	24	24	24	24	24	24	24
AppServ-EntAppsAppAdmin	50	50	50	50	20	10	20	25	10
DBS-SQLDBA	4	4							
DBS-OracleDBA		12	12	8	8	8	8	8	8
Platform-SysAdmin		6	10						
Platform-Developer-Mac		5	15						
CA-Developer				5		20	40	40	
EmpFin-Developer		10	5	5			15	15	
Student-Developer		15	5	25	5	10	15	20	
NtwkSrvs-SysEng		2	2	2	2	2	2	2	2
PMO-PSL		4	4	4	4	4	4	4	4
CA-ORM		2							
EmpFin-ORM		2							
EntSol-AppArch								6	
AOS-Developer				5					
AppServ-ORM		10	4	4	4	4	4	4	4
AuxOps-ORM				2	2				

OIT Role	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16
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OIT Role	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17
Student-ORM									
AppServ-EntAppsAppAdmin	24	24	24	24	24	12	12	12	12
AppServ-EntAppsAppAdmin	10	10	20	2	2	2	2	2	24
DBS-SQLDBA									
DBS-OracleDBA	8	8	8	8	8	8			8
Platform-SysAdmin									
Platform-Developer-Mac									
CA-Developer									
EmpFin-Developer									20
Student-Developer			20						20
NtwkSrvs-SysEng	2	2	2	2	2	2	2	2	2
PMO-PSL	4	4	4	4	4	4	4	4	4
CA-ORM									
EmpFin-ORM									
EntSol-AppArch									
AOS-Developer									
AppServ-ORM	4	4	4	4	4	4	4	4	4
AuxOps-ORM									

OIT Role	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Student-ORM									
AppServ-EntAppsAppAdmin	12	12	12	12	12	12	12	12	12
AppServ-EntAppsAppAdmin	24	24	24	24	24	24			
DBS-SQLDBA									
DBS-OracleDBA	8	8	8	8	8	8			
Platform-SysAdmin									
Platform-Developer-Mac									
CA-Developer	20	10			40				
EmpFin-Developer	30	30				10			
Student-Developer	20	10	20	20	0	10			
NtwkSrvs-SysEng	2	2	2	2	2	2	2	2	2
PMO-PSL	4	4	4	4	4	4	4	4	4
CA-ORM									
EmpFin-ORM									
EntSol-AppArch									
AOS-Developer									
AppServ-ORM	4	4	4	4	4	4	4	4	4
AuxOps-ORM									

OIT Role	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
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OIT Role	Nov-17	Dec-17	Total
Student-ORM			2
AppServ-EntAppsAppAdmin	12	12	492
AppServ-EntAppsAppAdmin			453
DBS-SQLDBA			4
DBS-OracleDBA			176
Platform-SysAdmin			16
Platform-Developer-Mac			20
CA-Developer			175
EmpFin-Developer			140
Student-Developer			215
NtwkSrvs-SysEng	2	2	56
PMO-PSL	4	4	112
CA-ORM			2
EmpFin-ORM			2
EntSol-AppArch			6
AOS-Developer			5
AppServ-ORM	4	4	118
AuxOps-ORM			4
Grand Total			1998

14.3 CloudFirst: Web Logic/APEX Implementation

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Web Logic/APEX Implementation	OIT	CF-AWS, CloudFirst, OIT	20-Active	20-Planning	Low Risk	Standard	Approved	4/22/2015	Guidance Council

Project Description

Business Case

Description

Move Weblogic applications to cloud infrastructure. Explore usage of open source J2EE environment instead of Weblogic

Key Business Drivers & Deliverables

Support CloudFirst Strategy

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
CloudFirst: Oracle Database Hosting		

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OID Hrs	Actual Hours	% Burn - Hrs
			700	62.00	6%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OID Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Jeff Critchlow	Aycock, Sara	Schubert, Eric		Kirner, Scott	Sorensen, Michelle	Seidl, David	CloudFirst Steering Committee

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Open	6/1/2015		11/6/2015		No
III Execution Phase	Not Started	11/9/2015		4/1/2016		No
IV Operationalize Phase	Not Started	4/4/2016		4/29/2016		No

Project Staffing by Role

	7/1/2015	8/1/2015	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	2/1/2016	3/1/2016	4/1/2016	Totals
AppServ-EntAppsAppAdmin	40.00	40.00	40.00	40.00	40.00	40.00	20.00	20.00	20.00	20.00	320
AppServ-ORM	8.00	8.00	8.00	8.00	4.00	4.00	8.00	8.00	8.00	8.00	72
AppServ-SharePointAppAdmin	8.00	8.00	8.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	164

DBS-OracleDBA	8.00	8.00	8.00	8.00	2.00	2.00	8.00	8.00	8.00	4.00	64
PMO-PSL	4.00	4.00	4.00	4.00	1.00	1.00	2.00	2.00	2.00	2.00	26
EmpFin-Developer					16.00	16.00	16.00	16.00	16.00	8.00	88
LMS-Lead					20.00	8.00					28
Student-Developer					16.00	16.00	16.00	8.00			56
Totals	68	68	68	80	119	107	90	82	74	62	818

14.4 CloudFirst: OnBase Dev AWS Proof of Concept (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: OnBase Dev AWS Proof of Concept	OIT	CF-AWS, CloudFirst, OIT	90-Closed	90-Complete	Low Risk	Standard	Approved	6/18/2015	Guidance Council

Project Description

Description

Proof of concept of moving OnBase to the AWS Cloud. Includes Dev installation and validation of key integration points.

Business Case

Key Business Drivers & Deliverables

CloudFirst program

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			190	16.50	9%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OID Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Tracy Weber	Tracy Weber	Kevin Casault		Weber, Tracy	Pawlak, Julie	Hill, Todd	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	6/1/2015	6/8/2015	6/18/2015	6/18/2015	No
III Execution Phase	Complete	6/19/2015	9/30/2015	9/30/2015	8/10/2015	No
IV Operationalize Phase	Complete	8/11/2015	10/15/2015	8/31/2015	8/31/2015	No

14.5 CloudFirst: OnBase to AWS

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: OnBase to AWS	OIT	CF-AWS, CloudFirst, OIT	60- Upcoming	10- Approval	High Risk	Standard	Approved	7/22/2015	Guidance Council

Project Description

Description
Move OnBase from on-premise to AWS servers. Includes proof of concept of migrating Student Xtender files.

Business Case

Key Business Drivers & Deliverables
CloudFirst

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
DocMgmt: Program priorities	DocMgmt: OnBase Core & Client 15 Upgrade	

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			600	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Tracy Weber	Weber, Tracy	Casault, Kevin		Weber, Tracy	Pawlak, Julie	Hill, Todd	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	12/1/2015		12/9/2015		No
III Execution Phase	Not Started	12/10/2015		4/27/2016		No
IV Operationalize Phase	Not Started	4/28/2016		6/9/2016		No

Project Staffing by Role

	12/1/2015	1/1/2016	2/1/2016	3/1/2016	4/1/2016	5/1/2016	6/1/2016	Totals
DBS-OracleDBA		10.00	10.00	12.00	10.00			42.00
DevOps-AppAdmin	30.00	30.00	20.00	20.00	20.00	20.00	5.00	145.00
DocMgmt-BA/QA	5.00	5.00	5.00	5.00	5.00	5.00	5.00	35.00
DocMgmt-Developer	60.00	84.00	84.00	84.00	84.00	30.00	10.00	436.00
DocMgmt-ORM	15.00	15.00	10.00	10.00	10.00	10.00	10.00	80.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	2.00	14.00
Student-Developer			8.00					8.00
Totals	112.00	146.00	139.00	133.00	131.00	67.00	32.00	760.00

14.6 CloudFirst: Migrate Xtender to OnBase

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Migrate Xtender to OnBase	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	70-Proposed	10-Approval	High Risk	Advanced			

Project Description

Description

Migrate Xtender Applications to OnBase, including
Development Office
Controller's Office
HR
Registrar (old transcripts)

Business Case

Key Business Drivers & Deliverables

Cloud First Strategy
Reduce Ellucian Software Licenses
Standardize on an Enterprise Document Management Platform

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
	CloudFirst: OnBase to AWS	Controller's Office, Development, Finance, Food Services, Human Resources, OIT, Registrar

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			2800	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee

Scott
Kirner

Weber, Tracy

Sorensen,
Michelle

Weber,
Tracy

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	7/1/2016		9/8/2016		No
III Execution Phase	Not Started	9/9/2016		4/20/2017		No
IV Operationalize Phase	Not Started	4/21/2017		5/31/2017		No

Project Staffing by Role

	7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017	Totals
AppServ-EntPlatfAppAdmin	2.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	12.00	86.00
CA-Developer							10.00	10.00	10.00		2.00	32.00
DBS-OracleDBA		10.00	30.00	8.00	8.00		8.00	4.00			2.00	70.00
DocMgmt-Developer	52.00	300.00	300.00	300.00	300.00	300.00	150.00	120.00	125.00	100.00	80.00	2127.00
DocMgmt-PM	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	220.00
EmpFin-Developer	12.00	40.00	40.00	40.00	12.00	12.00					2.00	158.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	22.00
TnT-Spclst				20.00	20.00	20.00			25.00		2.00	87.00
Totals	88.00	380.00	400.00	398.00	370.00	362.00	198.00	164.00	190.00	130.00	122.00	2802.00

14.7 CloudFirst: Application Virtualization Pilot

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Application Virtualization Pilot	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Description

Explore Virtual Application Infrastructure options for the Cloud:
Citrix Workspace Cloud
Azure - Microsoft VDI
VMWare Horizon Air
AWS Workspaces

Business Case

Key Business Drivers & Deliverables

Support of Cloud First Strategy

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			500	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Scott Kirner	Kelly McKinney			Kirner, Scott	Sorensen, Michelle	Kirner, Scott	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	1/4/2016		1/22/2016		No
III Execution Phase	Not Started	1/25/2016		5/3/2016		No

[IV Operationalize Phase](#) Not Started 5/4/2016

5/27/2016

No

Project Staffing by Role

	1/1/2016	2/1/2016	3/1/2016	4/1/2016	5/1/2016	Totals
AppServ-EntPlatfAppAdmin	40	60	100	100	40	340
AppServ-ORM	12	12	12	12	12	60
CA-Developer	4	4	8	8	4	28
DBS-SQLDBA	4	4	8	8	4	28
NtwkSrvs-NetEng	4	4	8	8	4	28
Platform-DesktopEng	20	30	30	20	10	110
Platform-SysAdmin	20	30	30	20	10	110
PMO-PSL	2	2	2	2	2	10
Totals	106	146	198	178	86	714

14.8 CloudFirst: Application Virtualization Implementation

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Application Virtualization Implementation	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	70-Proposed	10-Approval	High Risk	Standard			

Project Description

Business Case

Description

Implement new application virtualization service in the cloud, migrate existing virtualized applications to the new solution

Key Business Drivers & Deliverables

Support of Cloud First Strategy

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

CloudFirst: Application Virtualization Pilot

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			890	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Scott Kirner				Kirner, Scott	Sorensen, Michelle	Kirner, Scott	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	6/1/2016		6/28/2016		No
III Execution Phase	Not Started	6/29/2016		10/20/2016		No
IV Operationalize Phase	Not Started	10/21/2016		11/29/2016		No

Project Staffing by Role

	6/1/2016	7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	Totals
AppServ-EntPlatfAppAdmin	40.00	80.00	100.00	100.00	40.00	20.00	380.00
AppServ-ORM	12.00	12.00	12.00	12.00	12.00	12.00	72.00
AuxOps-Developer	10.00	20.00	20.00	20.00	10.00	10.00	90.00
CA-Developer	15.00	30.00	30.00	30.00	15.00	10.00	130.00

DBS-SQLDBA	4.00	8.00	8.00	8.00	4.00	2.00	34.00
DocMgmt-Developer	5.00	10.00	10.00	10.00	5.00	5.00	45.00
EmpFin-Developer	5.00	10.00	10.00	10.00	5.00	5.00	45.00
NtwkSrvs-NetEng	4.00	8.00	8.00	8.00	4.00	2.00	34.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	12.00
Student-Developer	5.00	10.00	10.00	10.00	5.00	5.00	45.00
Totals	102.00	190.00	210.00	210.00	102.00	73.00	887.00

14.9 CloudFirst: SharePoint Pilot

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: SharePoint Pilot	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	20-Active	20-Planning	Low Risk	Advanced	Approved	8/26/2015	Guidance Council

Project Description

Description

Pilot SharePoint in a Cloud Service - SharePoint Online and determine which reporting solution to proceed with into full implementation. Note: the foundational work for this project will include setting up Azure Active Directory and ADFS, which are also needed to move forward with enabling Microsoft Software Downloads from Office 365.

Business Case

Key Business Drivers & Deliverables

Support Cloud First Strategy
Phase 1 will stand-up environment for the library
Phase 2 will be a proof of concept on migrating, using the OIT site.

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Development, Graduate School, Investment Office

Project Resource Usage

Project Funding Details

Project Cost	Annual Recurring Cost	Spend to Date	OID Hrs	Actual Hours	% Burn - Hrs	Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments
			1420	0.00	0%					

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OID Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Scott Kirner		Collins, Devin		Kirner, Scott	Sorensen, Michelle	Kirner, Scott	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Open	9/1/2015	10/15/2015	10/15/2015		No
III Execution Phase	Not Started	10/16/2015		2/24/2016		No
III.a Go Live - Library	Not Started	11/15/2015		11/15/2015		No
IV Operationalize Phase	Not Started	2/25/2016		3/21/2016		No

Project Staffing by Role

	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	2/1/2016	3/1/2016	Totals
AppServ-EntAppsAppAdmin	10	20	10		10	20	10	80
AppServ-ORM	16	16	16		8	8	8	72
AppServ-SharePointAppAdmin	20	40	20		20	40	20	160
HelpDsk-ORM	10	10	10					30
IAM-Consulting								
IAM-Developer	80	80	80		15	15	15	285
Mktg&Comm-Spclst	8	8	8		20	20	20	84
Platform-ORM	10	10	10					30

PMO-PM								
PMO-PSL	8	8	8		8	8	8	48
ProdServ-Metrics	8	8	8		20	20	20	84
Totals	170	200	170		101	131	101	873

14.10 CloudFirst: SharePoint Implementation

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: SharePoint Implementation	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	70-Proposed	10-Approval	High Risk	Advanced			

Project Description

Description

Move SharePoint to the Cloud (SharePoint Online) including all customer/departmental sites

Business Case

Key Business Drivers & Deliverables

Support Cloud First Strategy

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

CloudFirst: SharePoint Pilot

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			2000	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Scott Kirner	O'Brien, Jack			Kirner, Scott	Sorensen, Michelle	Seidl, David	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	10/3/2016		12/13/2016		No
III Execution Phase	Not Started	12/14/2016		9/29/2017		No
IV Operationalize Phase	Not Started	10/2/2017		11/13/2017		No

Project Staffing by Role

	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017
AdmAsst-Admin	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
AppServ-EntAppsAppAdmin	14.69	13.99	15.38	15.38	13.99	16.08	13.99	15.38
AppServ-SharePointAppAdmin	29.37	27.97	30.77	30.77	27.97	32.17	27.97	30.77
CA-Developer	4.00	4.00						
EmpFin-Developer	4.00	4.00						
IAM-Consulting	4.00	4.00	8.00					
PMO-PM	16.00	16.00	16.00	36.00	36.00	36.00	16.00	16.00
PMO-PSL	8.00	8.00	2.00	20.00	20.00	20.00	2.00	2.00
ProdServ-Metrics	8.00	8.00	4.00	80.00	80.00	80.00		
Totals	128.06	125.96	116.15	222.15	217.96	224.25	99.96	104.15

	6/1/2017	7/1/2017	8/1/2017	9/1/2017	10/1/2017	11/1/2017	Totals
AdmAsst-Admin	40.00	40.00	40.00	40.00	40.00	40.00	560.00
AppServ-EntAppsAppAdmin	15.38	13.99	16.08	13.99	15.38	6.29	200.00

AppServ-SharePointAppAdmin	30.77	27.97	32.17	27.97	30.77	12.59	400.00
CA-Developer		20.00	20.00	20.00		2.00	70.00
EmpFin-Developer		20.00	20.00	20.00		2.00	70.00
IAM-Consulting							16.00
PMO-PM	16.00	16.00	16.08	16.00	16.00	16.00	284.08
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	94.00
ProdServ-Metrics						2.00	262.00
Totals	104.15	139.96	146.34	139.96	104.15	82.88	1956.08

14.11 CloudFirst: BI Implementation

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: BI Implementation	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	70-Proposed	10-Approval	High Risk	Advanced			

Project Description

Description

Migrate the BI Services to Cloud. This includes:

- Business Objects
- Tableau
- Data Services
- SSIS
- Sql Server EDW
- InfoBurst

Business Case

Key Business Drivers & Deliverables

CloudFirst strategy

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
	CloudFirst: Oracle Database Hosting	Academic Administration, Academic Services for Student Athletes, ACE, Admissions, Alumni, ASSA, Asset Management, Athletics, Auxiliary Operations, Budget Office, Campus Safety, Campus Services, Colleges, Centers and Institutes, Controller's Office, Development, Enrollment Services, EVP's Office,

Executive Vice President's Office, Facilities Design & Operations, Facilities Operations, Finance, Finance Division-VP, Financial Aid, Fire Department, First Year of Studies, Food Services, Housing Office, Human Resources, IEL-Institute for Educational Initiatives, Law School, Mendoza College of Business, Notre Dame International, Office of Strategic Planning, OIT, OSPIR, Parking, Payroll, President's Office, Procurement Services, Provost, Provost Budget & Planning, RecSports, Registrar, Research Administration, Residence Life and Housing, Residential Life, Risk Management, Security Dispatch, St. Michael's Laundry, Student Accounts, Student Activities, Student Affairs, Treasury, Undergraduate Studies, University Communications, University Relations, Utilities

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			6680	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Chris Frederick	Frederick, Chris			Frederick, Chris	Hayward, Sharon	Chapple, Mike	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	4/1/2016		6/9/2016		No
III Execution Phase	Not Started	6/10/2016		4/14/2017		No
IV Operationalize Phase	Not Started	4/17/2017		5/29/2017		No

Project Staffing by Role

	4/1/2016	5/1/2016	6/1/2016	7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016
AppServ-EntPlatfAppAdmin		8.00	8.00	24.00	24.00	24.00	24.00	24.00	24.00

BI-Developer	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00
BI-ORM	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Core-Storage	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
DBS-OracleDBA	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
DBS-SQLDBA	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
EntArch-Infra-Consultant	20.00	20.00	20.00	20.00	8.00	20.00	8.00	20.00	8.00
IAM-Consulting	10.00	10.00	10.00	8.00		8.00		8.00	
IAM-Developer	10.00	10.00	10.00	20.00	8.00	20.00	8.00	20.00	8.00
NtwkSrvs-NetEng		8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Platform-SysAdmin	20.00	20.00	20.00	32.00	32.00	32.00	64.00	32.00	32.00
PMO-PM	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Totals	475.00	491.00	491.00	527.00	495.00	527.00	527.00	527.00	495.00

Project Staffing by Role

	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017	Totals
AppServ-EntPlatfAppAdmin	8.00	8.00	8.00	8.00	8.00	200.00
BI-Developer	300.00	300.00	300.00	300.00	300.00	4200.00
BI-ORM	30.00	30.00	30.00	30.00	30.00	420.00
Core-Storage	4.00	4.00	4.00	4.00	4.00	110.00
DBS-OracleDBA	4.00	4.00	4.00	4.00	4.00	110.00
DBS-SQLDBA	4.00	4.00	4.00	4.00	4.00	110.00
EntArch-Infra-Consultant						144.00
IAM-Consulting						54.00
IAM-Developer						114.00
NtwkSrvs-NetEng	4.00	4.00	4.00	4.00	4.00	84.00
Platform-SysAdmin	16.00	16.00	16.00	16.00	16.00	364.00
PMO-PM	53.00	53.00	53.00	53.00	53.00	742.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	28.00
Totals	425.00	425.00	425.00	425.00	425.00	6680.00

14.12 CloudFirst: Portal Cloud Implementation

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Portal Cloud Implementation	OIT	CF-SaaS/PaaS/Retire, CloudFirst, OIT	20-Active	30-Execution	High Risk	Advanced	Approved	7/22/2015	Guidance Council

Project Description

Description

Implement new Inside ND Portal. The current product (Luminis 4) goes out of support June 2016.
Project includes looking at Ellucian Portal, Luminis 5 and OneCampus.

Business Case

Key Business Drivers & Deliverables

EOL of current product, support of Cloud First Strategy

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
		Controller's Office, First Year of Studies, Human Resources, Mendoza College of Business, Parking, Registrar, Student Accounts

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			4000	188.00	5%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
John Hartman	Hartman, John	Schubert, Eric		Kirner, Scott	Sorensen, Michelle	Kirner, Scott	David Seidl Todd Hill

Chuck Hurley
Mike Scott
Vic DeCola
Cidni Sanders
Ann Hastings (Matt
Anderson stand-in)

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	7/20/2015	8/5/2015	8/31/2015	8/31/2015	No
III Execution Phase	Open	9/1/2015	6/3/2016	6/3/2016		No
IV Operationalize Phase	Not Started	6/6/2016	7/5/2016	8/3/2016		No

Project Staffing by Role

	7/1/2015	8/1/2015	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	2/1/2016	3/1/2016
AdmAsst-Admin					10.00	15.00	64.00	64.00	64.00
AppServ-EntAppsAppAdmin	10.00	80.00	80.00	80.00	80.00	80.00	100.00	100.00	110.00
BA/QA-Analyst	2.00	8.00	67.00	67.00	77.00	77.00	99.00	99.00	92.00
Core-VM	2.00	8.00	8.00	8.00	8.00	4.00	4.00	4.00	
DBS-OracleDBA	4.00	16.00	20.00	30.00	30.00	30.00	20.00	20.00	20.00
EmpFin-BA	2.00	8.00	10.00	20.00	20.00	20.00	30.00	30.00	40.00
HelpDsk-ORM	2.00								
HelpDsk-Support								8.00	8.00
IAM-Developer		4.00	8.00	10.00	10.00	10.00	8.00	8.00	8.00
InfoSec-Consulting	2.00	8.00	8.00	8.00	8.00	4.00	4.00	4.00	
Platform-SysAdmin	2.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
PMO-PSL	2.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
TnT-Spclst	2.00	20.00	30.00	30.00	30.00	30.00	40.00	40.00	50.00
Totals	30.00	172.00	251.00	273.00	293.00	290.00	389.00	397.00	412.00

Project Staffing by Role

4/1/2016 5/1/2016 6/1/2016 7/1/2016 8/1/2016 Totals

AdmAsst-Admin	64.00	64.00	64.00	20.00	10.00	439.00
AppServ-EntAppsAppAdmin	100.00	80.00	60.00	40.00	20.00	1020.00
BA/QA-Analyst	92.00	99.00	99.00	87.00	77.00	1042.00
Core-VM						46.00
DBS-OracleDBA	20.00	20.00	20.00	20.00	20.00	290.00
EmpFin-BA	30.00	30.00	20.00	10.00	10.00	280.00
HelpDsk-ORM						2.00
HelpDsk-Support	16.00	16.00	16.00	8.00	8.00	80.00
IAM-Developer	8.00	8.00	8.00	4.00	4.00	98.00
InfoSec-Consulting						46.00
Platform-SysAdmin	16.00	16.00	16.00	8.00	4.00	190.00
PMO-PSL	4.00	4.00	4.00	4.00	4.00	54.00
TnT-Splst	50.00	60.00	60.00	20.00	10.00	472.00
Totals	400.00	397.00	367.00	221.00	167.00	4059.00

14.13 CloudFirst: Banner Cloud and Job Scheduling Pilot

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Banner Cloud and Job Scheduling Pilot	OIT	CF-AWS, CloudFirst, OIT	20-Active	20-Planning	High Risk	Advanced	Approved	7/22/2015	Guidance Council

Project Description

Description

The objective of this project is to implement a fully functional, proof-of-concept Banner ERP environment, hosted on Notre Dame's Amazon Web Services (AWS) cloud infrastructure. The business process and technical lessons learned from this effort, will serve as input for an eventual migration of the Production Banner ERP to the AWS cloud.

Business Case

Key Business Drivers & Deliverables

Business Driver: As part of the OIT's stated Cloud First strategic initiative, it is necessary to implement a fully functional proof-of-concept Banner ERP environment in AWS that will serve as a template for an eventual migration of the Production Banner ERP to the cloud.

Deliverables:

- Banner INB, SSB, XE and Job Submission product stack
- Ellucian Portal platform

- Shared Storage platform
- Job Scheduling platform (evaluation and implementation)
- Banner Integrated applications and interfaces.
- User experience and performance load test.

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
	CloudFirst: Oracle Database Hosting	Admissions, Audit and Advisory Services, Auxiliary Operations, Budget Office, Business Operations, Controller's Office, Development, Enrollment Services, Finance, Financial Aid, Human Resources, OIT, OSPIR, Payroll, Procurement Services, Research Administration, Student Accounts

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			3600	167.00	5%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Frederick Nwanganga	Nwanganga, Frederick	Melody, Vincent		Nwanganga, Frederick	Sorensen, Michelle	Seidl, David	Cloud First Steering Committee

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Open	6/1/2015		11/30/2015		No
III Execution Phase	Not Started	12/1/2015		8/31/2016		No

IV Operationalize Phase Not Started 9/1/2016

9/30/2016

No

Project Staffing by Role

	6/1/2015	7/1/2015	8/1/2015	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	2/1/2016
AppServ-ORM		12.00	12.00					4.00	4.00
AuxOps-Developer		12.00	12.00					4.00	12.00
AuxOps-ORM	8.00	12.00	12.00					4.00	4.00
BA/QA-Analyst		4.00	4.00					4.00	4.00
BI-Developer		12.00	12.00					4.00	33.00
BI-ORM	8.00	12.00	12.00					4.00	8.00
CA-Consulting		12.00	12.00					4.00	12.00
CA-ORM	8.00	12.00	12.00					4.00	4.00
DBS-OracleDBA	23.00	30.00	56.00	90.00	90.00	90.00	111.00	165.00	165.00
DBS-ORM	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00
DocMgmt-Developer		8.00	8.00					4.00	8.00
DocMgmt-ORM								4.00	4.00
EmpFin-Developer		12.00	12.00					4.00	12.00
EmpFin-ORM	8.00	12.00	12.00					4.00	4.00
PMO-PSL	2.00	2.00	4.00	2.00	2.00	2.00	2.00	2.00	2.00
Student-Developer		12.00	12.00					4.00	12.00
Student-ORM	8.00	12.00	12.00					4.00	4.00
Totals	98.00	209.00	237.00	125.00	125.00	125.00	146.00	256.00	325.00

Project Staffing by Role

	3/1/2016	4/1/2016	5/1/2016	6/1/2016	7/1/2016	8/1/2016	9/1/2016	Totals
AppServ-ORM	4.00	4.00	4.00	4.00	4.00	4.00	2.00	58.00
AuxOps-Developer	12.00	12.00	12.00	12.00	12.00	12.00	2.00	114.00
AuxOps-ORM	4.00	4.00	4.00	4.00	4.00	4.00	2.00	66.00
BA/QA-Analyst	4.00	4.00	4.00	4.00	4.00	4.00	2.00	42.00
BI-Developer	33.00	33.00	12.00	12.00	12.00	12.00	2.00	177.00

BI-ORM	8.00	8.00	8.00	8.00	8.00	8.00	2.00	94.00
CA-Consulting	12.00	12.00	12.00	12.00	12.00	12.00	2.00	114.00
CA-ORM	4.00	4.00	4.00	4.00	4.00	4.00	2.00	66.00
DBS-OracleDBA	165.00	165.00	165.00	165.00	165.00	165.00	26.00	1836.00
DBS-ORM	33.00	33.00	33.00	33.00	33.00	33.00	20.00	515.00
DocMgmt-Developer	8.00	8.00	8.00	8.00	8.00	8.00	2.00	78.00
DocMgmt-ORM	4.00	4.00	4.00	4.00	4.00	4.00	2.00	34.00
EmpFin-Developer	12.00	12.00	12.00	12.00	12.00	12.00	2.00	114.00
EmpFin-ORM	4.00	4.00	4.00	4.00	4.00	4.00	2.00	66.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	2.00	34.00
Student-Developer	12.00	12.00	12.00	12.00	12.00	12.00	2.00	114.00
Student-ORM	4.00	4.00	4.00	4.00	4.00	4.00	2.00	66.00
Totals	325.00	325.00	304.00	304.00	304.00	304.00	76.00	3588.00

14.14 CloudFirst: Banner and Job Scheduling Cloud Migration

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Banner and Job Scheduling Cloud Migration	OIT	CF-AWS, CloudFirst, OIT	70-Proposed	10-Approval	High Risk	Advanced			

Project Description

Business Case

Description

The goal of this project is to migrate the production Banner ERP, Job Scheduling service and other tightly coupled services to the Amazon cloud.

Key Business Drivers & Deliverables

This effort is in support of the OIT's stated Cloud First strategy.

Constraints

Known Constraints and Interdependencies

Project Dependencies

Other Customers Impacted

BI Services migration Tightly coupled services migration timing	CloudFirst: Banner Cloud and Job Scheduling Pilot	Academic Administration, Academic Services for Student Athletes, ACE, Admissions, Airforce Sciences, ALCO, Alumni, Anthony Travel, ASSA, Asset Management, Athletic Ticketing, Athletics, Audit and Advisory Services, Auxiliary Operations, Band, Basilica, Budget Office, Business Operations, Business Operations VP, Campus Ministries, Campus Safety, Campus Services, Career Center, CCE, Cemetery - Cedar Grove, Center for Creative Computing, Center for Ethics and Culture, Center for Social Concerns, Center for Social Research, Central Services, College of Arts and Letters, College of Engineering, College of Science, Colleges, Centers and Institutes, Community Relations, Community Standards, Controller's Office, CRC, CREO, CSLC, CUSE, Development, DigitalND, Disability Services, Engineering and Science Computing, Enrollment Services, ESC, EVP's Office, Executive Vice President's Office, Facilities Design & Operations, Facilities Operations, Finance, Finance Division-VP, Financial Aid, Fire Department, First Year of Studies, Food Services, Gender Relations, General Counsel, Graduate School, Health Services, Hesburgh Libraries, History Department, Housing Office, Human Resources, ICT4D, IEI-Institute for Educational Initiatives, Immigration Services, Innovation Park, Institute for Advanced Study, Institute for Church Life, Institute for Latino Studies, International, International Services, Investment Office, ISLA, Kaneb Center, Kellogg Institute, Kroc Institute, Law School, London Program, Mendoza College of Business, Morris Inn, Nanovic Institute, ND Marketplace, ND Press, NDI-London, NDI-Rome, Notre Dame International, Office of International Studies, Office of Strategic Planning, OIT, OPAC, OSPIR, Other, Parking, Payroll, Performing Arts Center, Physics Department, Power Plant, Pre-College Programs, President's Office, Procurement Services, Provost, Provost Budget & Planning, RecSports, Registrar, Research Administration, Residence Life and Housing, Residential Life, Risk Management, Robinson Center, ROTC, School of Architecture, Security Dispatch, Snite Museum of Art, Social Sciences, St. Michael's Laundry, Student Accounts, Student Activities, Student Affairs, Student Senate, Sustainability, Treasury, TRIO, TRIO (Upward Bound), TRIO Programs (Upward Bound), UCAT/CMS Sub-Committee/CCC, UCAT/CMS/CCC, Undergraduate Studies, University Architect, University Archives, University Communications, University Counseling Center, University Libraries, University Relations, University Writing Program, Utilities, Work Control Center
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Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			5360	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Frederick Nwanganga		Melody, Vincent		Nwanganga, Frederick	Sorensen, Michelle	Seidl, David	CloudFirst S/C

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	8/1/2016		9/7/2016		No
III Execution Phase	Not Started	9/9/2016		8/1/2017		No
IV Operationalize Phase	Not Started	8/2/2017		10/24/2017		No

Project Staffing by Role

	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017
AppServ-CTS Arch	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	2.00	4.00
AppServ-EntPlatfAppAdmin		4.00	4.00	4.00	4.00	8.00	8.00	8.00	8.00	8.00
AuxOps-Developer	8.00	8.00	8.00	8.00	8.00	12.00	12.00	12.00	12.00	12.00
AuxOps-ORM	8.00	8.00	8.00	8.00	8.00		2.00	2.00	2.00	2.00
BA/QA-Analyst	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
BI-Developer	8.00	8.00	8.00	8.00	8.00					
BI-ORM	16.00	16.00	16.00	16.00	16.00	4.00	4.00	4.00	4.00	4.00
CA-Developer	8.00	8.00	8.00	8.00	8.00	12.00	12.00	12.00	12.00	12.00
CA-ORM	8.00	8.00	8.00	8.00	8.00	2.00	2.00	2.00	2.00	2.00
CITS-Exec	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
CTS-Exec	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
DBS-OracleDBA	90.00	90.00	90.00	90.00	90.00	210.00	210.00	210.00	210.00	210.00
DBS-ORM	18.00	18.00	18.00	18.00	18.00	12.00	12.00	12.00	12.00	12.00
DocMgmt-Developer	8.00	8.00	8.00	8.00	8.00	12.00	12.00	12.00	12.00	12.00
EmpFin-Developer	8.00	8.00	8.00	8.00	8.00	24.00	24.00	24.00	24.00	24.00
EmpFin-ORM	16.00	16.00	16.00	16.00	16.00	4.00	4.00	4.00	4.00	4.00

EntArch-App-Consultant	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	2.00	4.00
EntArch-Infra-Consultant	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	2.00	4.00
EntSol-ORM	8.00	8.00	8.00	8.00	8.00	2.00	2.00	2.00	2.00	2.00
Platform-SysAdmin	12.00	12.00	12.00	12.00	12.00	8.00	8.00	8.00	4.00	4.00
PMO-PM	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Student-Developer	8.00	8.00	8.00	8.00	8.00	24.00	24.00	24.00	24.00	24.00
Student-ORM	16.00	16.00	16.00	16.00	16.00	4.00	4.00	4.00	4.00	4.00
Totals	324.00	328.00	328.00	328.00	328.00	422.00	424.00	424.00	414.00	420.00

	6/1/2017	7/1/2017	8/1/2017	9/1/2017	10/1/2017	Totals
AppServ-CTS Arch	4.00	4.00	4.00	4.00	4.00	58.00
AppServ-EntPlatfAppAdmin	8.00	8.00	8.00	4.00	4.00	88.00
AuxOps-Developer	12.00	12.00	8.00	4.00	4.00	140.00
AuxOps-ORM	2.00	2.00	2.00	2.00	2.00	58.00
BA/QA-Analyst	8.00	8.00	8.00	4.00	4.00	112.00
BI-Developer				4.00	4.00	48.00
BI-ORM	4.00	4.00	4.00	4.00	4.00	120.00
CA-Developer	12.00	12.00	8.00	4.00	4.00	140.00
CA-ORM	2.00	2.00	2.00	2.00	2.00	60.00
CITS-Exec	2.00	2.00	2.00	2.00	2.00	30.00
CTS-Exec	2.00	2.00	2.00	2.00	2.00	30.00
DBS-OracleDBA	210.00	210.00	120.00	90.00	90.00	2220.00
DBS-ORM	12.00	12.00	12.00	12.00	12.00	210.00
DocMgmt-Developer	12.00	12.00	8.00	4.00	4.00	140.00
EmpFin-Developer	24.00	24.00	24.00	4.00	4.00	240.00
EmpFin-ORM	4.00	4.00	4.00	4.00	4.00	120.00
EntArch-App-Consultant	4.00	4.00	4.00	4.00	4.00	58.00
EntArch-Infra-Consultant	4.00	4.00	4.00	4.00	4.00	58.00
EntSol-ORM	2.00	2.00	2.00	2.00	2.00	60.00
Platform-SysAdmin	4.00	4.00	4.00	4.00	4.00	112.00

PMO-PM	60.00	60.00	60.00	60.00	60.00	900.00
Student-Developer	24.00	24.00	24.00	4.00	4.00	240.00
Student-ORM	4.00	4.00	4.00	4.00	4.00	120.00
Totals	420.00	420.00	318.00	232.00	232.00	5362.00

15 Standalone Service Projects

15.1 Legal Files Upgrade 2015 (Completed)

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
Legal Files Upgrade 2015	General Counsel	CF-AWS, Campus Admin, CloudFirst	90-Closed	90-Complete	Low Risk	Standard	Support	9/8/2014	N/A

Project Description

Description

Upgrade Legal Files and move to supported OS

Business Case

Key Business Drivers & Deliverables

1. Rearchitecture of Legal Files (moving storage onto application server and moving server into Core DMZ)
2. Upgrade of OS from Windows 2003 to 2012
3. Installation of Windows Search service
4. Upgrade of Legal Files application

Constraints

Known Constraints and Interdependencies **Project Dependencies** **Other Customers Impacted**

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
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Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments
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397 443.50 112%

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Kimberly Umbaugh	Sharpe, Craig	Bouris, Pete		Morin, Kristen	Hayward, Sharon	Flanagan, Tim	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	11/10/2014	4/2/2015	4/2/2015	4/2/2015	No
III Execution Phase	Complete	4/3/2015	6/9/2015	6/10/2015	6/10/2015	No
IV Operationalize Phase	Complete	6/11/2015	7/9/2015	7/10/2015	7/8/2015	No

15.2 CloudFirst: AuxOps Server Migration

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: AuxOps Server Migration	Auxiliary Operations	Auxiliary Operations, CF-IaaS/PaaS, CloudFirst	20-Active	30-Execution	Low Risk	Standard	Approved	4/29/2015	Guidance Council

Project Description

Description

Migrate print server, application server and Oracle database server from the South Dining Hall to a more secure and environmentally appropriate location.

Business Case

Key Business Drivers & Deliverables

Secure, controlled environment
Reduce risk to hardware
Free up physical space
Introduce sustainable footprint

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			500	280.25	56%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Laura DeLuca		Coates, Fred		DeLuca, Laura	Hayward, Sharon	Casarez, Robert	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Complete	5/29/2015	9/4/2015	9/4/2015	9/4/2015	No
III Execution Phase	Open	9/5/2015	12/17/2015	12/17/2015		No
IV Operationalize Phase	Not Started	12/18/2015	1/14/2016	1/14/2016		No

Project Staffing by Role

	5/1/2015	6/1/2015	7/1/2015	8/1/2015	9/1/2015	10/1/2015	11/1/2015	12/1/2015	Totals
AuxOps-Developer				6.00	160.00	59.00	48.00	48.00	321.00
AuxOps-ORM				4.00	1.00	6.00	6.00	8.00	25.00

AuxOps-PM	5.00	10.00	10.00	3.00	3.00	4.00	10.00	45.00
AuxOps-Tech		10.00		14.00	10.00	10.00		44.00
DBS-OracleDBA			2.00	28.00	4.00	4.00	4.00	42.00
EntArch-App-Consultant				4.00				4.00
EntArch-Infra-Consultant				8.00	2.00	2.00	2.00	14.00
Platform-SysAdmin			1.00	4.00				5.00
PMO-PSL			1.00	1.00	1.00	1.00	1.00	5.00
Totals	5.00	20.00	24.00	223.00	85.00	75.00	73.00	505.00

15.3 CloudFirst: Migrate BAS

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Migrate BAS	Utilities	CF-AWS, Campus Admin, CloudFirst	20-Active	20-Planning	Low Risk	Standard	Support	3/9/2015	N/A

Project Description

Description

Migrate current BAS service to Amazon Web Services and retire the current SkySpark service

Business Case

Key Business Drivers & Deliverables

BAS in Amazon Cloud to support CloudFirst strategy

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Funding Details

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			185	16.00	9%

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Ryan Knowlton				Morin, Kristen	Hayward, Sharon	Kempf, Paul	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Open	7/20/2015		9/25/2015		No
III Execution Phase	Not Started	9/28/2015		11/13/2015		No
IV Operationalize Phase	Not Started	11/16/2015		12/4/2015		No

Project Staffing by Role

	7/1/2015	8/1/2015	9/1/2015	10/1/2015	11/1/2015	12/1/2015	Totals
AppServ-EntAppsAppAdmin				30	5	5	40
CA-Developer	10	30	30	30	30	10	140
PMO-PSL		1	1	1	1	1	5
Totals	10	31	31	61	36	16	185

15.4 CloudFirst: LDI for eProcurement Migration

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: LDI for eProcurement Migration	Procurement Services	CF-AWS, CloudFirst, Employee Finance	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Business Case

Description

Move LDI for eProcurement to Cloud Based Solution

Key Business Drivers & Deliverables

Support Cloud First Strategy

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Funding Details

Project Cost	Annual Recurring Cost	Spend to Date	BIT Hrs	Actual Hours	% Burn - Hrs
			230	0.00	0%

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	BIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Scott Kirner				Shulaw, Janet	Sorensen, Michelle	Agarwal, Vaibhav	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	2/1/2016		2/19/2016		No
III Execution Phase	Not Started	2/22/2016		4/1/2016		No
IV Operationalize Phase	Not Started	4/4/2016		4/27/2016		No

Project Staffing by Role

	2/1/2016	3/1/2016	4/1/2016	Totals
AppServ-EntAppsAppAdmin	20	40	20	80
AppServ-ORM	12	10	10	32
DBS-OracleDBA	10	20	10	40
EmpFin-Developer	10	20	15	45
NtwkSrvs-SysEng	4	16	8	28
PMO-PSL	2	2	2	6
Totals	58	108	65	231

15.5 CloudFirst: Migrate CIF

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Migrate CIF	OIT	CF-AWS, CloudFirst, OIT	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Description

Migrate all CIF applications (CIFPA, CIF Admin, CIF Reports, CIF Email Utility) to AWS

Business Case

Key Business Drivers & Deliverables

- Refactor CIF code as needed to ensure it can work in a load balanced environment
- Conduct load test to ensure CIF Admin can handle anticipated load
- Conduct full testing of all CIF applications in TEST environment

Constraints

Known Constraints and Interdependencies	Project Dependencies	Other Customers Impacted
CloudFirst: Oracle Database Hosting		

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			600	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Chris Corrente	Swanagan, Andrea			Corrente, Chris	Morrill, Sherry	Chapple, Mike	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	2/1/2017		3/17/2017		No
III Execution Phase	Not Started	3/20/2017		6/16/2017		No
IV Operationalize Phase	Not Started	6/19/2017		7/21/2017		No

Project Staffing by Role

	2/1/2017	3/1/2017	4/1/2017	5/1/2017	6/1/2017	7/1/2017	Totals
AppServ-EntPlatfAppAdmin	12.00	12.00	12.00	12.00	12.00	8.00	68.00
DBS-OracleDBA	8.00	12.00	12.00	12.00	12.00	12.00	68.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	2.00	12.00

Student-Developer	16.00	80.00	80.00	80.00	80.00	40.00	376.00
Student-PM	12.00	12.00	12.00	12.00	12.00	12.00	72.00
Totals	50.00	118.00	118.00	118.00	118.00	74.00	596.00

15.6 CloudFirst: Ultratime migration to AWS

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Ultratime migration to AWS	Payroll	CF-AWS, CloudFirst, Employee Finance	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Business Case

Description

Move Ultratime to AWS

Key Business Drivers & Deliverables

Cloud First strategy

Constraints

Known Constraints and Interdependencies

Project Dependencies

CloudFirst: Banner and Job Scheduling Cloud Migration

Other Customers Impacted

Project Resource Usage

Project Funding Details

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			270	0.00	0%

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Janet Shulaw	Roberts, Leigh Anne	Critchlow, Jeff		Shulaw, Janet	Strite, Kevin	Van Dieren, Paul	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	3/1/2017		4/14/2017		No
III Execution Phase	Not Started	4/17/2017		6/26/2017		No
IV Operationalize Phase	Not Started	6/27/2017		7/21/2017		No

Project Staffing by Role

	3/1/2017	4/1/2017	5/1/2017	6/1/2017	7/1/2017	Totals
AppServ-EntAppsAppAdmin	8.00	16.00	16.00	16.00	16.00	72.00
DBS-SQLDBA	2.00	4.00	6.00	2.00	2.00	16.00
EmpFin-Developer	8.00	8.00	8.00	8.00	8.00	40.00
EmpFin-PM	12.00	12.00	12.00	12.00	12.00	60.00
Platform-SysAdmin	8.00	16.00	16.00	16.00	16.00	72.00
PMO-PSL	2.00	2.00	2.00	2.00	2.00	10.00
Totals	40.00	58.00	60.00	56.00	56.00	270.00

15.7 CloudFirst: Symphony Migration to AWS

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
CloudFirst: Symphony Migration to AWS	Food Services	Auxiliary Operations, CF-AWS, CloudFirst	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Business Case

Description

Migrate Symphony POS to AWS. May also include an upgrade of Symphony.

Key Business Drivers & Deliverables

CloudFirst strategy

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Food Services, Morris Inn

Project Resource Usage

Project Funding Details

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			196	0.00	0%

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Laura DeLuca				DeLuca, Laura	Hayward, Sharon	Chapple, Mike	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	9/15/2017		10/31/2017		No
III Execution Phase	Not Started	11/1/2017		1/9/2018		No
IV Operationalize Phase	Not Started	1/10/2018		1/31/2018		No

Project Staffing by Role

	9/1/2017	10/1/2017	11/1/2017	12/1/2017	1/1/2018	Totals
AuxOps-PM	10.00	10.00	10.00	10.00	10.00	50.00
AuxOps-Tech	10.00	20.00	20.00	20.00	20.00	90.00
DBS-OracleDBA	5.00	5.00	5.00			15.00
EntArch-Infra-Consultant	2.00	8.00				10.00
NtwkSrvs-NetEng	2.00	5.00	3.00			10.00
Platform-SysAdmin	2.00	5.00	3.00			10.00
PMO-PSL	1.00	1.00	1.00	1.00	1.00	5.00
Totals	32.00	54.00	42.00	31.00	31.00	159.00

15.8 KeyKeeper Upgrade 2015

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
KeyKeeper Upgrade 2015	Facilities Design & Operations	CF-AWS, Campus Admin, CloudFirst	20-Active	20-Planning	Low Risk	Standard	Support	7/7/2015	N/A

Project Description

Description

The Lockshop requires an upgrade to the newest version of KeyKeeper in order to function with newer hardware being installed. We will also explore potential move to the cloud for this tool.

Business Case

Key Business Drivers & Deliverables

Upgrade of KeyKeeper application in Test and Prod.

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			300	20.00	7%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Kimberly Umbaugh	Tripp, Andy	Bouris, Pete		Morin, Kristen	Hayward, Sharon	Kempf, Paul	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Open	8/24/2015		10/2/2015		No
III Execution Phase	Not Started	10/5/2015		12/4/2015		No
IV Operationalize Phase	Not Started	12/7/2015		1/22/2016		No

Project Staffing by Role

	9/1/2015	10/1/2015	11/1/2015	12/1/2015	1/1/2016	Totals
AppServ-EntAppsAppAdmin	15	40	40	15		110
CA-PM						
CA-Tester	30	40	50	5	20	145
DBS-SQLDBA	3	5	5	3		16
Platform-SysAdmin	3	3	4			10
PMO-PSL	1	1	1	1	1	5
Totals	52	89	100	24	21	286

15.9 AiM 2016 Upgrade

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
AiM 2016 Upgrade	Campus Services	CF-AWS, Campus Admin, CloudFirst	70-Proposed	10-Approval	Low Risk	Standard	Support	7/14/2015	N/A

Project Description

Description

Upgrade to newest version of Aim and move to Cloud

Business Case

Key Business Drivers & Deliverables

CloudFirst Strategy and maintain supportability

Constraints

Known Constraints and Interdependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			475	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Kristen Morin	Velazquez, Jessica			Morin, Kristen	Hayward, Sharon	Morin, Kristen	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	9/1/2016		10/17/2016		No
III Execution Phase	Not Started	10/18/2016		12/26/2016		No
IV Operationalize Phase	Not Started	12/27/2016		1/19/2017		No

Project Staffing by Role

	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	Totals
AppServ-EntAppsAppAdmin	15.00	20.00	20.00	15.00	15.00	85.00
BI-Developer		5.00	5.00	5.00		15.00
CA-Developer	15.00	40.00	40.00	40.00	30.00	165.00
CA-PM	16.00	16.00	16.00	16.00	16.00	80.00
DBS-OracleDBA	20.00	20.00	20.00	20.00		80.00
Platform-SysAdmin	5.00	15.00	15.00	10.00		45.00
PMO-PSL	1.00	1.00	1.00	1.00	1.00	5.00
Totals	72.00	117.00	117.00	107.00	62.00	475.00

15.10 RecSports Fusion Upgrade and Migration to the Cloud

Project Summary

Title	Customer	Linked to Portfolio	Status	Current Phase	Track	Resource Staffing	Decision	Decision Date	Approval Body
RecSports Fusion Upgrade and Migration to the Cloud	Student Affairs	CF-AWS, CloudFirst, Student	70-Proposed	10-Approval	Low Risk	Standard			

Project Description

Description

Upgrade the RecSports Fusion software to the latest version and also migrate to the cloud.

Business Case

Key Business Drivers & Deliverables

Migrate service to the cloud.

Constraints

Known Constraints and Interpedependencies Project Dependencies Other Customers Impacted

Project Resource Usage

Project Cost	Annual Recurring Cost	Spend to Date	OIT Hrs	Actual Hours	% Burn - Hrs
			200	0.00	0%

Project Funding Details

Funding Source	Approved Funding	Project FOAPAL/Activity Code	Customers, if Funding Source is Split	Budget Funding Comments

Project Leads

Project Owner	Functional Lead	Tech Lead	Business Analyst	OIT Relationship Manager	Project Services Lead	Sponsor	Steering Committee
Chris Corrente				Corrente, Chris	Morrill, Sherry	Anderson, Matt	

Project Phase Timeline

Milestone	Status	Start Date	Baseline Date	Target Date	Actual Completion	Key Delivery Date
II Planning Phase	Not Started	2/1/2016		3/16/2016		No
III Execution Phase	Not Started	3/17/2016		5/25/2016		No
IV Operationalize Phase	Not Started	5/9/2016		5/31/2016		No

Project Staffing by Role

	2/1/2016	3/1/2016	4/1/2016	5/1/2016	Totals
DBS-SQLDBA	10	5	10	1	26
PMO-ORM	2	2	2	2	8

PMO-PSL					
Student-Developer	30	30	30	5	95
Student-PM	20	20	20	10	70
Totals	62	57	62	18	199

16 Program Level Application/Service Migrations

Service Name	Common Name
Guest Managment	quest.nd.edu
Applications Load to Banner	DT6
Nolij Transfer to Banner	
Code Promotion and Version Manager	Subversion
Code Repository	Git
Coming Home	Pontem
Coming Home - Pontem	
Coming Home - Quickbooks	
Commencement Ticket Request	Grad Student, Registrar Commencement Ticket App
DBFit Service	DBFit
Development Office ElasticSearch	ElasticSearch
Dietary analysis system	ESHA Food Pro
Facilities Water Management	Sentinel
FERPA Utility	FERPA Tax Lookup
FileMaker - A&L	alcoFM
FileMaker - DSS	ND Press
FileMaker - OIT	
Graduation Progress System	Degree Works
Help Desk Password Reset	Password Reset
Integrated Display Systems	Lift-Net
Investment Office CRM	Code Red RMS
Managed Desktop - Mac	Casper
Microsoft SQL Database Support - Investment Office	

Non-Resident Student Status	Sunapsis
Payment Gateway	e-Bill, IrishPay, Nelnet, QuikPay
QA Tool	Selenium
Registrar Classroom Scheduling and Student Activities Event Scheduling	EMS (Event Management System)
Registrar eForms	eForms
Report Distribution System	e-Print
Ruby on Rails Software Push	launchpad
Runbook Documentation and Compliance	e-Nav
Server Integrity Monitoring	Tripwire
Tableau for Investments	
University Archives Website	
Utilities Geographic Information System (GIS)	Utilities GIS
VingCard VisiOnline	
Web Application Scanning	Acunetix
Windows Key Management Server	KMS

17 Related Initiatives

[17.1 IAM: APM Group Mgmt System](#)

[17.2 Green Belt - Password reset policy and process](#)

[17.3 Secure Authentication for Everyone](#)

[17.4 Student Activities Online Enhancements](#)

[17.5 Email Routing Infrastructure to Google](#)

[17.6 Export Controlled Data Compliance Plan Technical Requirements Project](#)

[17.7 Giving Platform - Future Assessment; Giving Platform to cloud](#)

[17.8 Google Groups Enterprise Integration](#)

18 Independent SaaS Replacements

Service Name	Common Name
Campus Web Camera	Web Cam

Service Name	Common Name
College of Business CRM	Talisma
Computer Lab Statistics	LabStats
Course File Folders	Courseware
Departmental Website Architecture	
Desktop Virtualization	VDI
Development Office Phone Solicitation	SmartCall
Fire Department ACS	Firehouse
Hockey Pro Shop POS and Rink Scheduling	MaxEnterprise/MaxGalaxy
ID card design and printing	ID Works
Legacy Web Architecture	
Mobile Device Management	MDM
Recipe Creation	MasterCook
Residential Management System	RMS
Secured Web Services	www3
St. Michael's Laundry - SPOT	SPOT
Student Meal Plans	Odyssey
Technology Transfer	Inteum
Terradotta	Terradotta
NDI Risk Management	Terra Dotta, Travel Registry, Risk Management
NDI Study Abroad Application	Terra Dotta, Study Abroad
UHS Medical Information System	Medicat
Vending application to track sales	MEI Easitrax
Video Conferencing	

19 Independent Service Retires

Service Name	Common Name
ACE Portfolio Admin	
ACE Portfolio	
Administrative Listserv	
Alumni Spam Assassin	SpamScorer
Aux Ops issue tracking system	Track IT

Service Name	Common Name
Cable Management Software System	NetDoc
CCSP Infrastructure	CCSP
CCSP Intrusion Detection System	IDS
CCSP Security Incident Manager	Q1
Chemical Survey (Risk Management)	
Chemistry Department Website	
Classroom Website	
Control Forms	
Course Listserv	
CSC Elections	
Data Center Biometric Access	HandNet
Data Center Video Monitoring	Honeywell Camera
Employee Data Warehouse	EDW
Development Help Desk Survey	
Development Training Survey	
Digital Media Manager	Cisco Digital Media Manager
Faculty Profile (old)	
FileMaker - FYS	
FileMaker - Grad School	
Food Services Cash Register System	Micros RES 3700
FYS Advising	
FYS Survey	
Grade Upload	ColdFusion Grade Upload
Hard Drive Encryption - Windows	Utimaco
Huddle Mart Food Services Systems	Catapult
html2email	
Infosec: Investigation and Analysis Tool	RT-IR
Managed Desktop - Mac	Quest
Microsoft .NET hosting - MCOB	
All Resource Planning - Lite	ARP
Community Engagement Reporting	Community Engagement Reporting
Room Scheduling Reporting	

Service Name	Common Name
ND Employ	
ND Marketplace - AbleCommerce	
Online Benefit Enrollment	HR Flex
Online Resource Library	ORLIB
OIT Resource Mgmt Tool	Apex
Registrar Class Search	
Research Grantsline	
Resident Assistant App	RA App
SkySpark	SkySpark
Software Development Bug Tracking	JIRA
Surplus Property	Osprey
Telkonet	
International Studies Program Admissions	ISP Admissions
International Studies Program Reporting	
Sponsored Travel	TMS, Travel Management System, Undergrad TMS
University Event Calendar - Bedeworks	Bedeworks
Upward Bound Tracking System	Bounder
Video Streaming for Mac	QuickTime
Video Streaming for Windows	Streaming
Vulnerability Scanning - Database	Sentigo
Website Activity Reporting	WebStats
Websphere Platform	Websphere
Box Lunches: boxlunches	
Comments: formmail	
Department Charges: chemail	
Department Charges: deptsupervisors	
Department Charges: SupervisorEmail	
Domer Dollars Deposit: cso_depost	
MegaSurvey: readtxt2009.exe	

20 Appendices

20.1 AWS Objectives for Pilot Projects

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
AAA	A01	Create management process for VPCs, security groups, subnets, gateways.	Done	Jaime & Richman	Leverage processes of respective groups. Example, infosec reviews security groups, networking reviews VPCs.	current process doc sufficient - validating	T Klimek & J Williams	4/15/2014	
AAA	A02	Build out network infrastructure including firewalls.	Done	Project Team	Identical to ND, and identifies ranges to the burbs	https://drive.google.com/drive/u/0/#folders/0B89Vkl1RfpTOeUg4dG5lVIRtR1E https://drive.google.com/drive/u/0/#folders/0B89Vkl1RfpTOeUg4dG5lVIRtR1E/0B5sIHnSGDTU8ckRsVTJHTHVDNWc/0B5T0v9rEzI9NaGRUSzNGNVFFcFk	T Klimek & J Williams	3/6/2014	diag reviewed by governance committee.
AAA	A03	Develop a strategy for managing host firewalls via security groups.	Done	Kolin, Bob R.	Default security groups based on zone used. Address one-offs as needed when needed	https://notredame.box.com/s/ptha2d45rfkqa3r0jm02	Jason Williams	4/7/2014	Base security groups, naming conventions and then diff. from app spec

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
AAA	A04	Implement OS standards and patch management. All OS implementations should be scripted in Production	Done	Joseph, Milind & Mike R.	Modified existing patching standard to generally include Amazon 30 day cycle Some exceptions due to technology, different scripts for each platform 30 days required - public facing w/identified vulnerabilities on exposed service Puppet manifest	https://sp.nd.edu/c/oit/cts/ps/Security%20Compliance/AWS%20Patchinng%20Standard.docx?Web=1	C Fruehwirth J Williams	6/5/2014	Estimate to create scripts (O/S impl. only) - 20hrs uninterrupted Not able to script DCs Scripts being put into Bitbucket Puppet training delayed
AAA	A05	Determine key rotation practices and certificate management and deployment.	Done	Jason	Privileged Access Credential Rotation Standard posted at	https://oit.nd.edu/policies-standards/information-technology-standards/pacr_standard/	InfoSec - Jason	2/27/2014	Standard approved by S&A team
AAA	A06	Conduct web vulnerability scans before deployment.	Done	Jaime	WebInspect - done the same way as done in OIT	https://docs.google.com/a/nd.edu/document/d/1y9mltnJDhk4UzJHAe7_42iXp5M68XEJOeVs8TRkJ3t0/edit#heading=h.gjdgxs	Jason & Chris F	5/7/2014	Security scans are being done as requested using current tools and procedures. The new policy addresses this requirement. See A07 (below) for additional

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
									information. Starting July 31
AAA	A07	Conduct network vulnerability scans on an ongoing basis.	Done	Jaime	Qualys - use current process	https://docs.google.com/a/nd.edu/document/d/1f7eSDGhtLIjI8652JrfFi9J0k-9Y4czn4qVXMrl21ig/edit#heading=h.gjdqxs	Jason & Chris F	5/30/2014	InfoSec completed policy documentation (waiting on link info) if new vendor, reviewed by IaaS Governance?? InfoSec is updating their current process documentation to include self service and AWS changes Starting July 31
AAA	A08	Implement resource tagging standards, including a process for the removal of untagged resources.	Done	Shane & Chris F	Standards developed. If more than 1 area is billed within an account, objects need to be tagged which identifies where billing goes. If untagged, execute process to investigate & tag and possibly shut down, destroyed. Anytime a resource is created, must be tagged (snapshots, etc.)	https://docs.google.com/a/nd.edu/spreadsheets/d/1CxzXvNQn0DY9J4FLO2HZrbvLXCDC5X-w5HhUuW3MUK/edit#gid=0	Chris Shane	3/26/2014	Need to validate process and document untagging. Need to identify area resp. to monitor/do

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
AAA	A09	Determine configuration management change detection processes and tools	Done	Mike Ball, Julie S., Chris F.	Consolidated data sheets, physical, internal VMs, and AWS Use Assyst workflow to manage flow	\\facilities.corpfs.nd.edu\IT_Facilities\Administrative\Forms for ITSM https://sp.nd.edu/c/oit/itsm/chgmgmt/Lists/P/reDefined%20Workflows/AllItems https://sp.nd.edu/c/oit/is/cs/itf/Shared%20Documents/Forms/AllItems.aspx	Chris F.	4/25/2014	Done for DCND(PROD) Lifecycle team needs to determine if needed for for STAGEND and SANDBOXND (formally known as TESTND)
AAA	A10	Determine process for requesting and implementing resources.	Done	Chris F.	Commission and decommission processes being adjusted to include AWS Completion of AWS Ops guide documenting the Amazon approach overall	https://sp.nd.edu/c/oit/itsm/chgmgmt/Lists/P/reDefined%20Workflows/AllItems https://sp.nd.edu/c/oit/is/cs/itf/Shared%20Documents/Forms/AllItems.aspx	Chris F.	6/6/2014	Need to include process to go through Ops Guide for future projects - should this be included here or as new Objective?? Decommissioning request submitted on 5/14 (R62584) Defining workflow processes in Assyst

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
									DONE for DCND Need to finalize decommissioning Non OIT commissioning requires a FOAPAL (moved the financial acctg portion to CMA4 (charge back model))
Backups	B1	Manage bandwidth to avoid impact on campus Internet access - capacity and performance monitoring	Done	Bob W for now	use current tools, should have adequate bandwidth	Handled by standard departmental process	N/A		Compatible with existing operational standards/plan
Backups	B2	Extend the concept of MUR to encompass both on-premises equipment and cloud expenses, including recapturing cost	Done	Andrea					included with general MUR effort over next few months waiting on final soln recommendation

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
		savings for future implementations.							
Backups	B3	Ensure licensing requirements are fulfilled in IaaS environment. - evaluate all tools we use at ND that we want at AWS and site license doesn't apply	Done	Chris F.	System Mgmt(Chef, SEP, Tripwire) 389 CAS-open source Kurogo Nagios Backup depends on which product selected	Existing contracts & on SW approved list	Need Chris F Mary T	6/20/2014	All reviewed, except Tripwire & Nagios so far. we have portability with licensing Nagios - Approved on 5/15 Tripwire - responded 6/19 and still need clarification on if actually licensed for AWS Tripwire - Acct Mgr still waiting on SE - 5/22 Called TW on 6/5 Confirmed able to use TW license in AWS on 6/25
Backups	B4	Optimizing storage interface	Done	Shane	Panzura, compare to current timing			8/22/2014	Amazon recommends "data mover" between ND and AWS

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
									Documented current practices and drafting exec summary We have 3 days once support notifies us it's ready to start testing
Campus Mobile App	CM A1	Incorporate IaaS components into existing asset management process (modeled from nd.edu implementation)	Done	Chris F.	Commission and decommission processes being adjusted to include AWS			n/a	Covered in A09/A10; Chris and BobW agree it should be removed
Campus Mobile App	CM A2	Implement version control for all scripts and automation artifacts	Done	Matt W.	GitHub (public) Bitbucket (private)	https://docs.google.com/a/nd.edu/document/d/1Gvxo254EZGyHHunC_JnigEhnAkarT4hzK6a72yWk2B8/edit	need IaaS gov committee ok	3/20/2014	Sharif adding Bitbucket info sending out link via email for approval
Campus Mobile App	CM A3	Create service-based cost reporting process	Done	Matt W.	Possibly Cloudability to compensate for Amazon's billing			n/a	Duplicate of A7
Campus	CM A4	Develop charge-back model,	Done	Andrea, Shane,	Currently using accounts to determine chargeback cost. Will	https://docs.google.com/a/nd.edu/document/d/1uDZ3ebLw95tD6j63R	Andrea	5/8/2014	testing with last month's bill - Andrea

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
Mobil e App				Mike, John P.	be tagging objects with billing information for greater granularity - what are the triggers to make the resource appear and be appropriately accounted for? - need to pre-define how to create the 8th account...	jDC0g1XbjCIJaRpyfiR-2yYQok/edit			identifying use cases/open questions. (moved from Conductor as Conductor charge model follows single, customer owned account) -new account requests to be vetted by Shane's team; appeals to IaaS Governance; new accounts must be communicated -Need to make sure foapal not deleted from tracking doc when decommissioned as we are billed in arrears - don't reuse acct numbers for now.

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
Campus Mobile App	CM A5	Validate IaaS Candidate workflow	Done	Chris F. Don	See workflow	https://sp.nd.edu/c/oit/isd/arch/_layouts/15/WopiFrame.aspx?source=doc=/c/oit/isd/arch/Shared%20Documents/IaaS%20Candidate%20Workflow%204.pdf&action=default	Winding and Chris F.	5/1/2014	change questionable candidate to possible candidate add descriptive text regarding how to use and next steps. Request changes made, reviewed, approved and posted
Conductor	C2	Create account management processes, including escrow of admin account credentials.	Done	Shane	Tracked by Virtualization group and IAM, adapted existing account mgmt processes to support. If need root access for changes, work with duty officer to get keyfob and obtain from safe	https://notredame.app.box.com/files/0/f/1160827185/1/f_12200810278 Support - Duty Officer process Checklist - located in Box:	Shane Chris	3/6/2014	
Conductor	C3	Define AWS access roles and separation of duties.	Done	IaaS applicable team members	Two mechanisms of separation were identified, accounts and roles. Accounts are being used short term for UC while roles are defined.	Incorporated in IAM departmental procedures and documentation	Derek/ Michele	3/24/2014	Confirmed with Derek that this is complete.
Conductor	C4	Determine the feasibility of	Done	Milind/ Hipshear	Alec moved Conductor to RDS	n/a - it is feasible	n/a		

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
		leveraging AWS RDS.							
Conductor	C5	Develop model to provide OIT system administration as a service to the campus community, including MOB estimates (define relationship of shared system mgmt)	Done	Milind/Hipshear/Winding/Chris F	Create a checklist to define roles and responsibilities for shared support between OIT Platform Engineering and departmental applications engineers.	https://docs.google.com/a/nd.edu/spreadsheets/ccc?key=0AtzvaVUfUa8mdElrTzQ3RFdqSDZzYmd0ZC1hVWwLLVE#gid=0	Chris F.	4/4/2014	Will be refined ongoing by IaaS governance Committee
Conductor	C6	Create campus standard method and process for creating and storing software-defined infrastructure scripts	Done	Brandon & Sharif	MarComm is Implementing servers using Chef, solo CAMPUS SOLN - Puppet/BitBucket	https://docs.google.com/a/nd.edu/document/d/1Gvxo254EZGyHHunC_JniqEhnAkarT4hzK6a72yWk2B8/edit	Scott K. IaaS Comm Chris F Jason W	3/28/2014	GitHub - public/collaborative BitBucket - OIT private
Conductor	C8	Develop a process to incorporate Trusted Advisor	Done	Shane	Cloudyn - cost analysis & perf. optimization cost free if total Amazon spend in the product < \$150K/yr	Incorporated in Virtualization Team normal operational procedures	Shane C.	3/28/2014	The Virtualization Team is working with those responsible for

Resp. Project	Seq	AWS Objective	Progress Stage	Assigned To	Solution Summary	Documented approach	Document approved by MOB mgr	Exp. completion date	Comments
		input to achieve cost optimization.							accounts to setup billing alerts based on their AWS spend budgets. The basics are in place and we will continue to improve how we approach it going forward.
Conductor	C1	Restrict AWS management console and server administrative access to systems with multi-factor authentication.	Done	Bob W.	Enable AWS multi factor AuthN and utilize duo mobile device client or google authenticator. Fully integrated into Account Mgmt system	https://oit.nd.edu/policies-standards/information-technology-standards/pacr_standard/	Michele D Jason W	3/21/2014	In alignment with current processes