

Stanford
UNIVERSITY IT

Cloud Transformation Program

Cloud Change Champions | December 13, 2017



Welcome to the December Cloud Change Champions Meeting!

Today's Agenda

1

**Welcome and Agenda Overview
Overall Cloud Program Update**

2

Deep-Dive Update on Measurable Goal 4

3

Getting *your* Input:

- **Considerations for Moving UIT Systems and Services to the Cloud**
- **Cloud Communication Next Steps**
- **Feedback and Open Discussion**

Reminder | **Overall UIT Cloud Program Goals** (through 2019)

Goal 1: Perform cloud governance and portfolio management

Goal 2: Define organizational development program

Goal 3: Integrate cloud systems, processes, and services

Goal 4: Run mission critical services in the cloud

Goal 5: Reduce UIT computing footprint on campus 50%

Goal 6: Exit Livermore disaster recovery site

Program Update | **Highlights from the Current Quarter**

Goal 1:

Published a set of pages to help in choosing the right cloud solution

Surveyed service owners to gather information about roadmaps

Contract for SkyHigh is complete; next is setup for testing

Goal 2:

Completed first set of exec sponsor roadshows

Kicked off training team, AWS classes, and workgroup training sessions with Emerging Tech

Working on roadmaps and skills assessment approach

Goal 3:

Collected GCP billing and provisioning requirements

Completed first set of changes to EAM to accept cloud billing items from AWS

Goal 4:

Will be covered in today's meeting

Goal 5:

Completed a proposal for a new server acquisition review process with Finance, Data Center, Vendor Management

Goal 6:

An effort is underway to review the equipment inventory (VMs in particular)

A template for retirement of Livermore services is complete and ready for review

One of the questions we hear most often is:

What services are moving to the cloud, and when?

Measurable Goal 4 *deep dive* | Migrate and Operate Services in the Cloud

4.1 Core foundational services to support IaaS, PaaS, and SaaS deployments:

- 4.1.1 Define cloud-ready API architecture and associated integration infrastructure.
- 4.1.2 Create a defined strategy for network address and DNS management in the cloud.
- 4.1.3 Develop monitoring and log strategy for our deployments into the cloud.
- 4.1.4 Standardize on a container orchestration framework to manage automated deployments of containerized systems and to reduce dependency on VMware or other hypervisor management products. Platform ready to support scripted deployment with DevOps, containerized implementation.

4.2 Deploy mission critical services into the cloud (based on goal #1):

- 4.2.1. Based on portfolio evaluation process, identify and prioritize the service transition sequence.
- 4.2.2 Deploy re-architecting team to accelerate transition activities.
- 4.2.3 Transition [Top X] number of mission critical services to the cloud.

4.3 ERP detailed project schedules:

- 4.3.1 Partner with Business Owners to prioritize the ERP systems for cloud fit and requirements gathering.
- 4.3.2 Launch discovery effort with key ERP vendors for cloud opportunities.

This is the complete description of Measurable Goal 4 for this performance year (i.e., through April 30, 2018)

Measurable Goal 4 *deep dive* | Migrate and Operate Services in the Cloud

Goal 4 focuses on cloud migrations:

- New systems and software deployments will be cloud-sourced.
- Current UIT-owned and operated critical campus services and core infrastructure will be *primarily* cloud-sourced.

Goal 4 breaks down *three* ways:



Migrating *core foundational services* to the cloud

DEFINITION

These are the enabling *base infrastructure services* that other systems and services rely on



These foundational services can be “guardrail” infrastructure like security controls, or other essential infrastructure such as network address and DNS management, monitoring/logging, supporting tools, containerized systems, and other API architecture and associated infrastructure

Migrating Now	Migrating by Feb 2018
<p>IdPs are in production in the cloud, KDCs w/ production data</p> <p>Currently migrating: OpenLDAP (UAT is done, working on Prod)</p> <p>Tools facilitating migration: Terraform, Gitlab, Puppet</p>	<p>Active Directory active effort</p> <p>OpenLDAP will be in production</p> <p>Client Certificate Authentication Infrastructure</p>
Discovery and Planning	
<p>Kubernetes, Vault, AWS/GCP account provisioning, MinSec for cloud, DNS/Network management in the cloud, Monitoring in the cloud</p>	

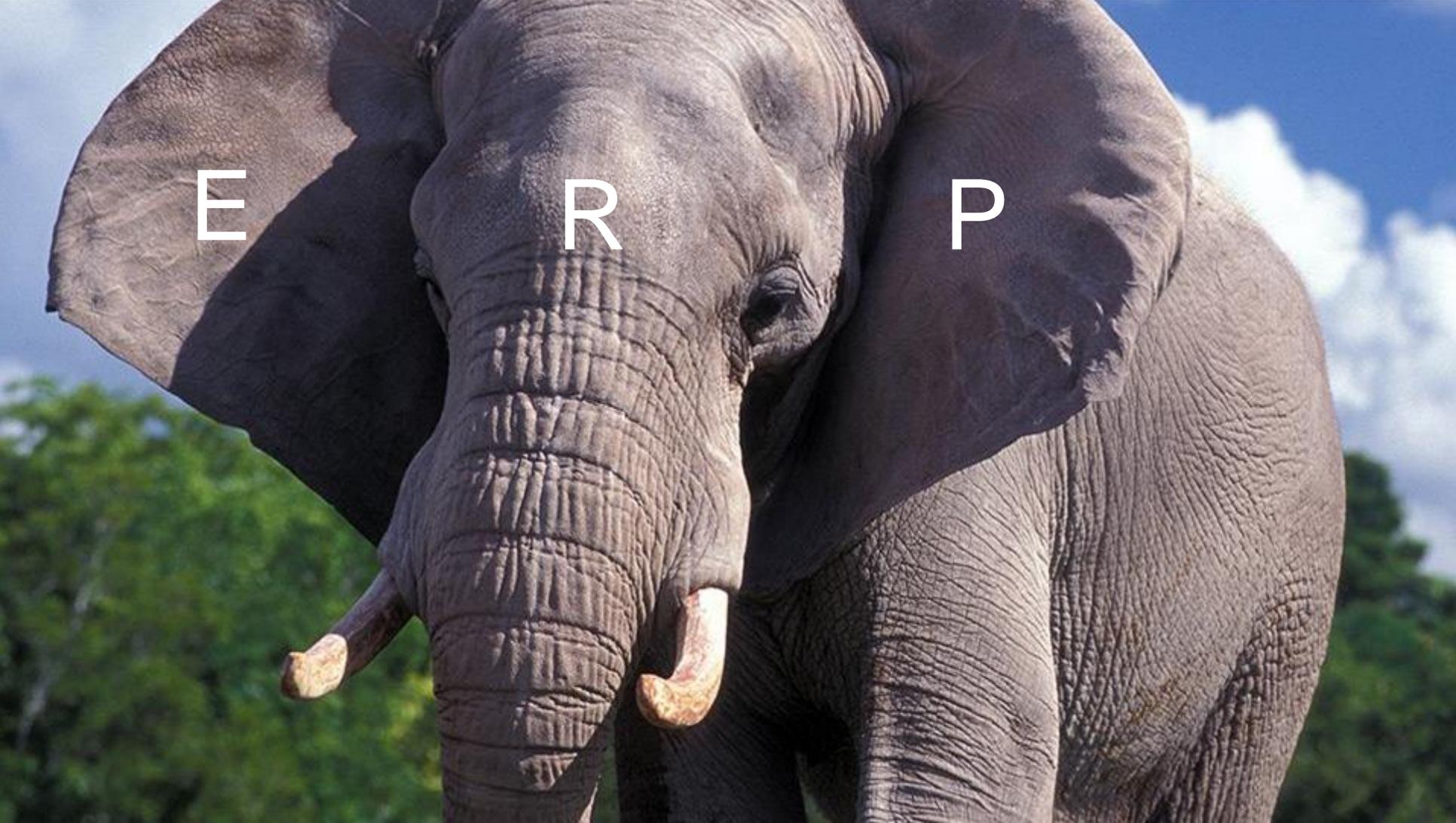
Migrating *mission critical services* to the cloud

DEFINITION

These are the *mission critical services* that aren't ERPs. They are broadly used services with multiple use cases, and they will be prioritized based on a portfolio evaluation process which still needs to be defined.

Migrating by Apr 2018	Migrating by Jul 2018
Code Green	Sites 2.0 (Acquia)
Discovery and Planning	
Survey of service owners' roadmap plans, Skyhigh testing, client satisfaction survey	

Migrating ERPs to the cloud

A close-up photograph of an elephant's head and trunk. The elephant's skin is dark grey and heavily wrinkled. Its trunk is thick and textured, with two small, curved tusks visible. The background is a bright blue sky with white clouds and a green forest. The word "ERP" is overlaid in white capital letters across the center of the image.

E

R

P

Migrating ERPs to the cloud

RATIONALE

Decision-making around the ERPs is complex, and Business Application owners have concerns we need to consider; our goal is to work with the business owners to prioritize the ERP systems based on cloud fit and requirements gathering.

1. The OCIO has recommitted to moving Stanford's critical apps to the cloud as a BC/DR imperative.
2. Because of Business Application owner feedback, the OCIO has not yet decided that we will fundamentally change the four core modules of the ERPs within the timeframe of going to the cloud.
3. UIT will, for now, pursue a "lift and shift" strategy to move, i.e. re-factor, our ERPs, then shift them to the cloud; planning for this "lift and shift" will occur within the program timeframe.
4. We will still look at supplemental administrative applications and tools as targeted SaaS or PaaS opportunities.

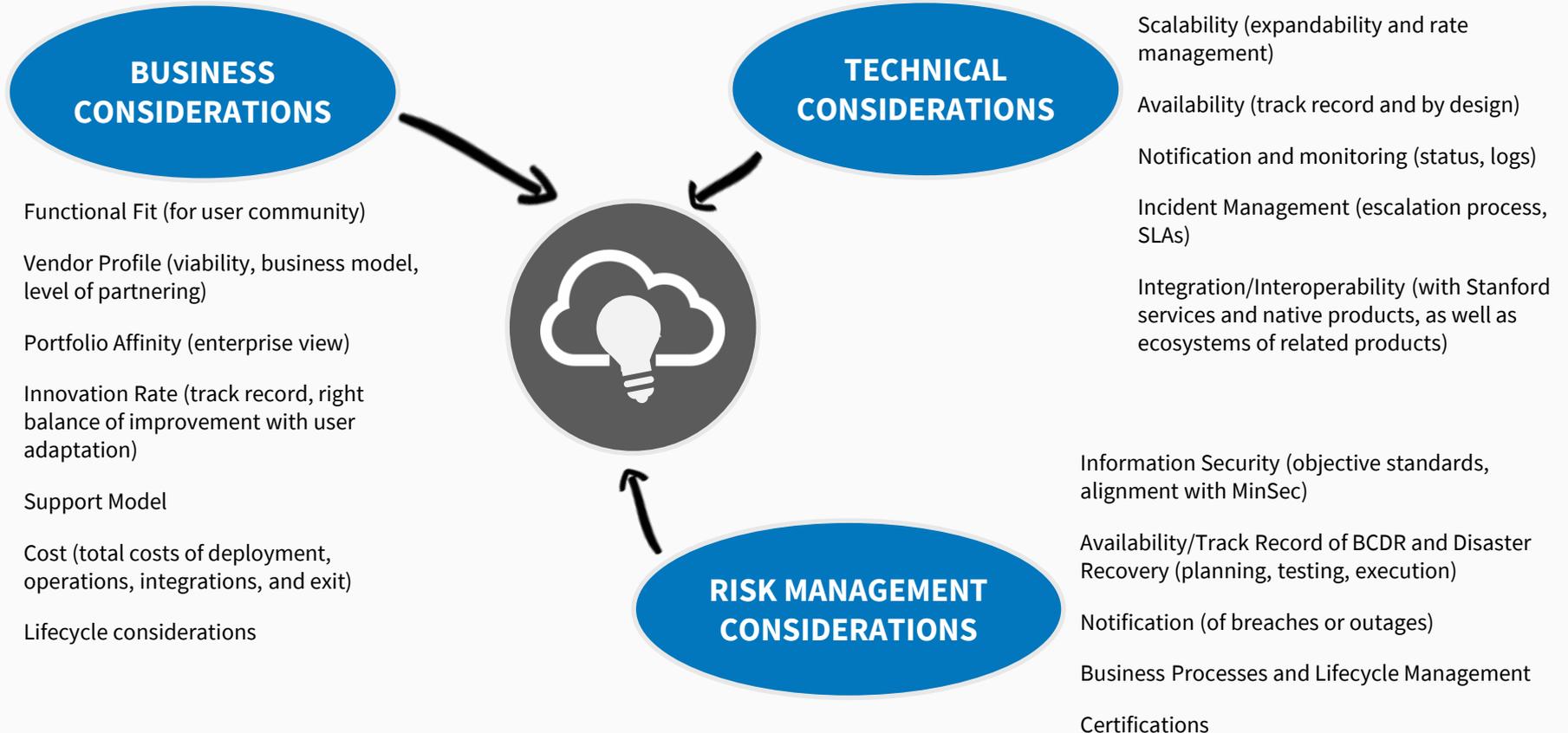
We started off this “deep dive” with this question:

What services are moving to the cloud, and when?

What are the services?

considerations

for choosing the next set of



What are the services?

considerations

for choosing the next set of



Scalability (expandability and rate management)

Availability (track record and by design)

(status, logs)

relation process,

(with Stanford

s, as well as

acts))

standards,

Availability/Track Record of BCDR and Disaster Recovery (planning, testing, execution)

Notification (of breaches or outages)

Business Processes and Lifecycle Management

Certifications

These are some of the factors that we would like the OCIO to consider when choosing the next set of services

We want your feedback... *What are we missing?*

Functional

Vendor Pro
level of par

Portfolio A

Innovation
balance of
adaptation

Support M

Cost (total costs of deployment, operations, integrations and exit)

Lifecycle considerations

Ideas for the next Cloud Roadshow (aka the *Jan and Ganesh Show*)

What do you want Jan and Ganesh to cover in their next Cloud Roadshow meetings (scheduled for late Jan/early Feb)?

What else do you need from these meetings to support the communication needs of you and your workgroup(s)?

Help us communicate the following key messages this month about the *cloud* program:

REINFORCE

WHY
WHAT
WHEN

Sequence of services moving to the cloud:



The **considerations** for moving to the cloud will feed into portfolio discussions, as will the service roadmap survey (due on Dec 18; two reminders have been sent to service owners)

REMIND

Remind your colleagues that they can find more in-depth and updated information on our website: <https://uit.stanford.edu/cloud-transformation>

Other updates:

- Choosing A Cloud Solution guide is live: <https://uit.stanford.edu/cloud-transformation/choosing-solution>
- AWS on-site classes are underway this week

Choosing and Purchasing a Cloud Solution

Choosing and Purchasing a Cloud Solution

Does your group want to move its servers, applications, or other IT resources to the cloud, or investigate a cloud solution to meet a business need? This guide is designed to help members of the Stanford community think about, choose, and purchase the best cloud solution for their needs.

1

Step 1: Review Criteria for Cloud Solutions

2

Step 2: Choose a Cloud Solution

3

Step 3: Purchase a Cloud Solution

Additional Feedback and Open Discussion

Our next meeting will
be in January 2018

Thank you!