BRC Cloud Consulting Services

Aaron Culich
Research IT
aculich@berkeley.edu
What are the options?

CLOUD COMPUTING
What are the options?

Aug 2006
What are the options?

May 2007
Commercial Clouds

Cloud Computing 2015

- Amazon Web Services
- Rackspace
- DigitalOcean
- Microsoft Azure
- Google Cloud Platform
Commercial Clouds

Amazon Web Services

DigitalOcean

Microsoft Azure

Rackspace

Google Cloud Platform

Cloud Computing

2015
National Infrastructure

CLOUD COMPUTING

1974 - 2014

XSEDE
Extreme Science and Engineering Discovery Environment

FutureGrid
an XSEDE resource provider

NERSC

NCSA

Berkeley
UNIVERSITY OF CALIFORNIA
National Infrastructure

• Most advanced, powerful, and robust collection of integrated advanced digital resources and services in the world.
• Five-year, $121-million project is supported by the National Science Foundation
Emerging National Infrastructure

CLOUD COMPUTING

2015 - 2016

XSEDE
BRIDGES
CloudLab
Chameleon
Jetstream
COMET
TACC

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What are the challenges?
What are the challenges?

• Options...
So many options...
Too many options?!
BRC Consulting can help you...

Match computational requirements with appropriate resources

To address the challenge of: *Lots of (too many?!) Options*
What are the challenges?

• Lots of (too many?!) options
• Complexity...
Complexity
Complexity
Complexity

Compute
- EC2
- Virtual Directories in the Cloud
- Lambda
- Run Code in Response to Events
- EC2 Container Service
- Run and Manage Docker Containers

Storage & Content Delivery
- S3
- Scalable Storage in the Cloud
- Elastic File System
- Fully Managed File System for EC2
- Storage Gateway
- Integrates On-Premises IT Environments with Cloud Storage
- Glacier
- Archive Storage in the Cloud
- CloudFront
- Global Content Delivery Network

Database
- RDS
- MySQL, PostgreSQL, Oracle, SQL Server, and Amazon Aurora
- DynamoDB
- Predictable and Scalable NoSQL Data Store
- ElastiCache
- In-Memory Cache
- Redshift
- Managed Petabyte-Scale Data Warehouse Service

Networking
- VPC
- Isolated Cloud Resources
- Direct Connect
- Dedicated Network Connection to AWS
- Route 53
- Scalable DNS and Domain Name Registration

Administration & Security
- Directory Service
- Managed Directories in the Cloud
- Identity & Access Management
- Access Control and Key Management
- Trusted Advisor
- AWS Cloud Optimization Expert
- CloudTrail
- User Activity and Change Tracking
- Config
- Resource Configurations and Inventory
- CloudWatch
- Resource and Application Monitoring
- Service Catalog
- Personalized Catalog of AWS Resources

Deployment & Management
- Elastic Beanstalk
- AWS Application Container
- OpsWorks
- DevOps Application Management Service
- CloudFormation
- Templated AWS Resource Creation
- CodeDeploy
- Automated Deployments
- CodeCommit
- Managed Git Repositories
- CodePipeline
- Continuous Delivery

Analytics
- EMR
- Managed Hadoop Framework
- Kinesis
- Real-time Processing of Streaming Big Data
- Data Pipeline
- Orchestration for Data-Driven Workflows
- Machine Learning
- Build Smart Applications Quickly and Easily

Application Services
- SQS
- Message Queue Service
- SWF
- Workflow Service for Coordinating Application Components
- AppStream
- Low Latency Application Streaming
- Elastic Transcoder
- Easy-to-use Scalable Media Transcoding
- SES
- Email Sending Service
- CloudSearch
- Managed Search Service
- API Gateway
- Build, Deploy and Manage APIs

Mobile Services
- Cognito
- User Identity and App Data Synchronization
- Device Farm
- Test Android, Fire OS, and iOS apps on real devices in the Cloud
- Mobile Analytics
- Collect, View and Export App Analytics
- SNS
- Push Notification Service

Enterprise Applications
- WorkSpaces
- Desktops in the Cloud
- WorkDocs
- Secure Enterprise Storage and Sharing Service
- WorkMail PREVIEW
- Secure Email and Calendaring Service
BRC Consulting can help you...

Document best practices and automate provisioning

To address the challenge of:

*Complexity*
What are the challenges?

• Lots of (too many?!) options
• Complexity
• Cost...
Cost

Research lifespan

Cloud vendor subsidies
BRC Consulting can help you...

Plan for and manage costs

To address the challenge of: 
Cost
What are the challenges?

• Lots of (too many?!) options
• Complexity
• Cost
• Access...
“Do you know how most faculty handle cloud computing payments?”
-- a new faculty member
BRC Consulting can help you...

Facilitate access to resources

To address the challenge of: 
Access
Teaching...
Teaching... in the Cloud?
Cloud Computing Support

Match computational requirements with appropriate resources

Plan for and manage costs

Facilitate access to resources

Document best practices and automate provisioning
Cloud Computing Support

- Match computational requirements with appropriate resources
- Plan for and manage costs
- Facilitate access to resources
- Document best practices and automate provisioning

FREE
Mobility of Compute

Cloud Computing

Consulting

Condo/Institutional Cluster

Virtual Workstations

Microsoft Azure

Amazon Web Services

XSEDE

NERSC

FutureGrid

NCSA

Berkeley

University of California
Consulting

... and Community
Cloud Working Group

Co-hosted by:

Members from all over campus from all walks of life:

Faculty
Grad student
Undergrad
Postdoc
Researcher Staff
Student Staff
Library Staff
IT Staff
Volunteer

Statistics
Environmental Health Sciences
Goldman School of Public Policy
Haas/Master of Financial Engineering
School of Public Health/Epidemiology
Sociology
Anthropology
School of Information
ESPM
Haas School of Business
Nuclear Engineering
EECS/AMPLab
PATH / Institute of Transportation Studies
IST Data Services
Research IT

BIDS
IS&T/RIT
Biostatistics
California Digital Library
ITS / PATH / Connected Corridors
GSE
D-Lab
Epidemiology
Biostatistics
Radiology & Biomedical Imaging, UCSF
ESPM
Sociology
UC Berkeley Libraries
Information Management and Systems

Sign-up for the weekly newsletter.
Join us in the D-Lab Collaborative Space!

Berkeley
UNIVERSITY OF CALIFORNIA
How can you get started?

Email us at: research-it@berkeley.edu
Thanks!

Questions?

For more information visit:

research-it.berkeley.edu/brc/cloud

Email:

research-it@berkeley.edu