Agenda

- DuraCloud Introduction
- Architectural Overview
- Cloud Challenges
- Standards?
Introduction

DuraCloud is:
- Open source software suite
- Hosted service

Core motivations:
- Preservation sensibilities in cloud
- Rich content access
- Service platform
- Community-based solution
- Ease entry to cloud
Top-level Architecture

Organization/Administrator using DuraCloud

Repository, Content Management System, File System (via web, REST APIs, utilities)

DuraCloud platform running on a compute cloud

Programming interfaces

UI

System Administration

API

Service Management

API

Storage Management

Services:
Backup
Health check
Synchronization
Replication

Amazon S3

Rackspace Cloud Files

Microsoft Azure

Other Clouds
Experiences & Challenges

- Eventual consistency
- Server volatility
- HTTP limitations
- Bit integrity
- Storage provider APIs
- Affordability & Simplicity
Eventual Consistency

Given a sufficiently long period of time over which no changes are sent, all updates can be expected to propagate eventually through the system and all the replicas will be consistent.
Server Volatility

- Application “state”
- Monitoring
HTTP limitations

Payload < 1-GB
Bit Integrity

• On Ingest
  Unit of verification: PUT request

• On Demand
  Preferred: provider-side w/salt
Storage provider APIs
- Standards?
Affordability & Simplicity

- Optimize fixed costs
  Multi-tenancy

- Ease of use
Questions?
Experiences & Challenges

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Photo / Icon Acknowledgments

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