



Designing granular lifecycle management for cloud.

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Agenda



Flash Memory Summit

- About me
- Cloud costs
- Lifecycle management in cloud
- Impact
- Takeaways

About me



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- Sr. Software Engineer, Netflix
- Apple, Samsung, Cadence, Box
- TedX Speaker
 - Cloud computing
 - Storage, Distributed Systems
 - Blockchain, Web3, NFTs
- Advisor
 - Nillion
 - Dorado
- Adjunct Professor, UAT, AZ



- Netflix stores 10s of exabytes of data in cloud
- Cloud charges
 - Request costs
 - Storage costs
 - Egress costs
- Not all data is created equal
 - Think about Netflix movies
 - First week, second week ... two years since?
- How do we apply appropriate lifecycle management policies to data?

- Netflix uses S3 for object storage
 - Movie file is split into objects and stored on S3
- S3 already exposes some lifecycle management
 - Policies at the bucket level: you can configure a dynamic assignment to buckets, but not granular enough for our use
- Need ability to know which bucket should the object be assigned to
- Need ability to design multi-cloud and cloud-agnostic software for lifecycle policy management

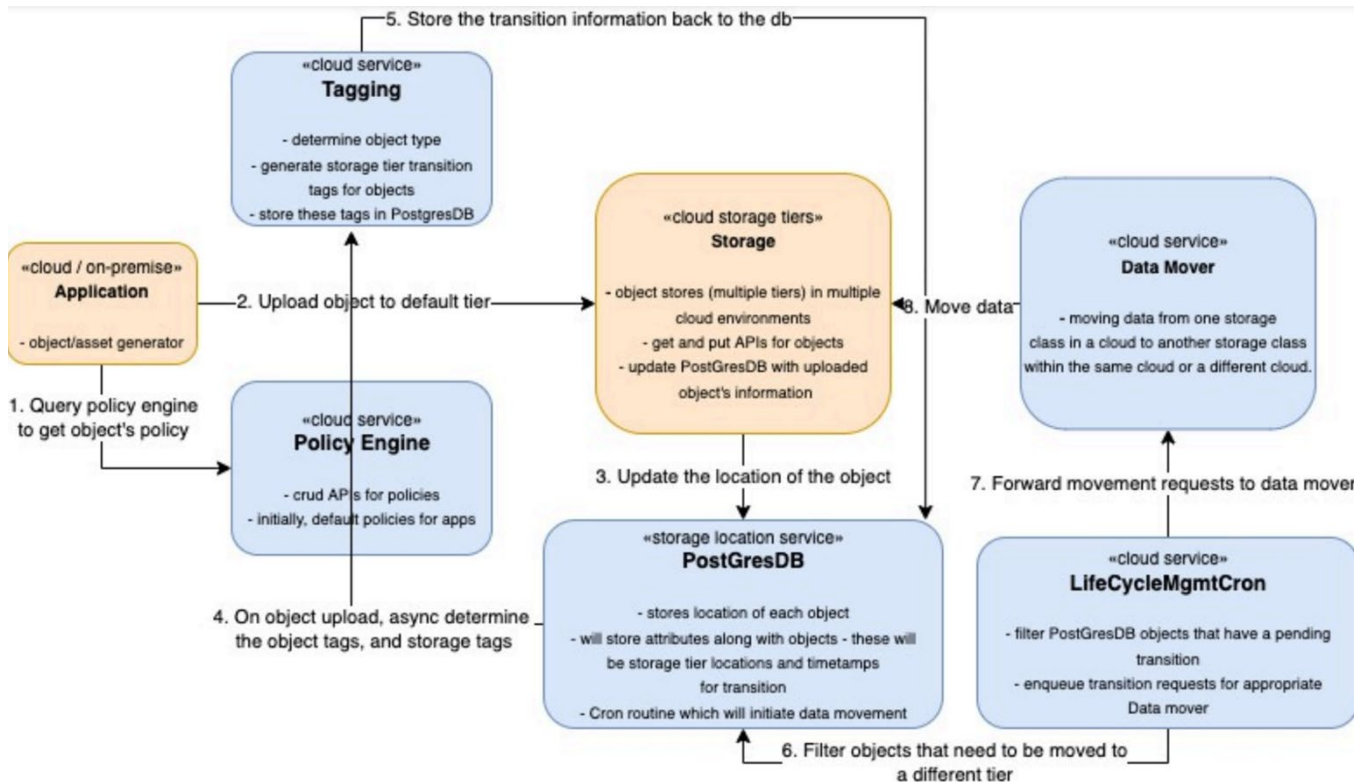
Design of Life cycle manager

- Need to understand the nature of uploaded objects
- Based on nature: eg: OCF image, final cut image, rendered object, etc., determine the lifecycle policy
- Apply automatic transitions based on object type
- Rely on existing lifecycle management features and build on top of it- do not reinvent the wheel.

Software components

- Policy engine
- Tagging module
- Database to store objects, tiers, and lifecycle policies
- Cron service to check for transitions
- Data movers to move data to appropriate tiers

How does it all come together?



Final thoughts



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- Currently being piloted in Netflix, potential savings in millions of dollars for content
- Cloud agnostic, just need to implement data movers and provide right abstractions for policy engines
- Nature of objects is inferred from object creation source, file endings, machine learning.



Thank You!



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