

Behavior Modeling for Fault Tolerant Storage on Clouds

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Context

Facing the need to store large amount of data and to satisfy many end-user needs, **storage systems** belonging to **clouds** face many potential failures.

Moreover, keeping its consistency, replication, proper authentication and authorization etc., is getting more and more complex.



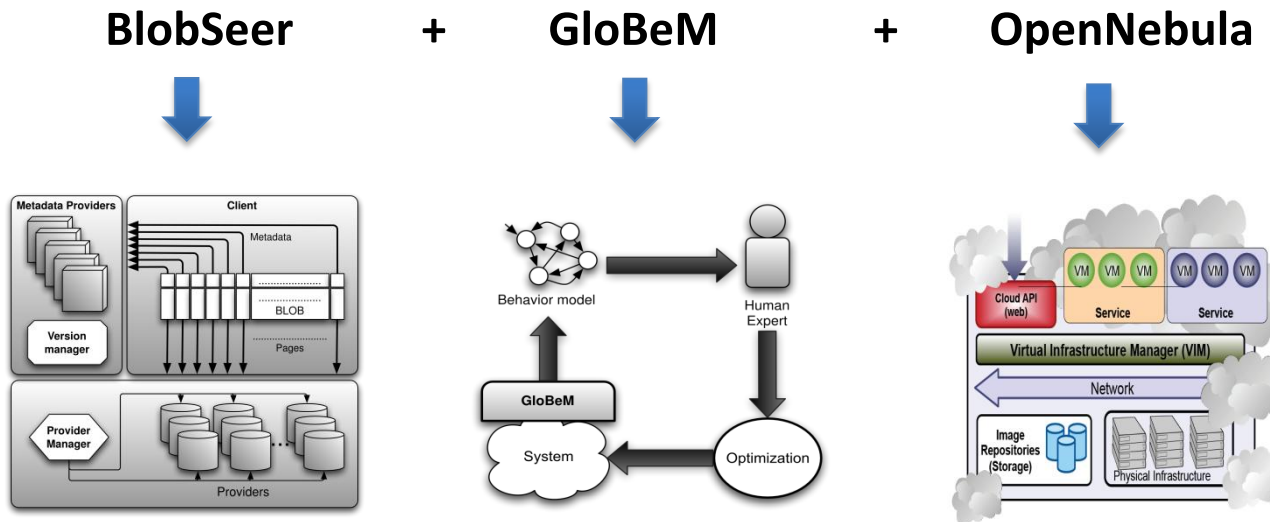
Problem Statement

Identify the cloud's storage behavior and use that knowledge in order to improve the storage's **Fault tolerance**.



Proposal

BlobSeer-GloBeM-OpenNebula to provide cloud-based high performance storage capabilities to OpenNebula, while also guaranteeing its Fault tolerance.



Facts

OpenNebula

- an open source framework, with
- great customization capabilities

but, without

- an exploration for high performance storage
- a proper security in its default (shared) file system, and
- **fault tolerance** in case of potential failures



Expected results

Modeling behavior will simplify:

- add/removal of VM/host replicas when needed
- easier VM/BLOB initiation
- dynamic VM image placement
- on-time thresholds to keep the system in a safe state, and
- more to come...



Thank You



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