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# Apache Deltacloud

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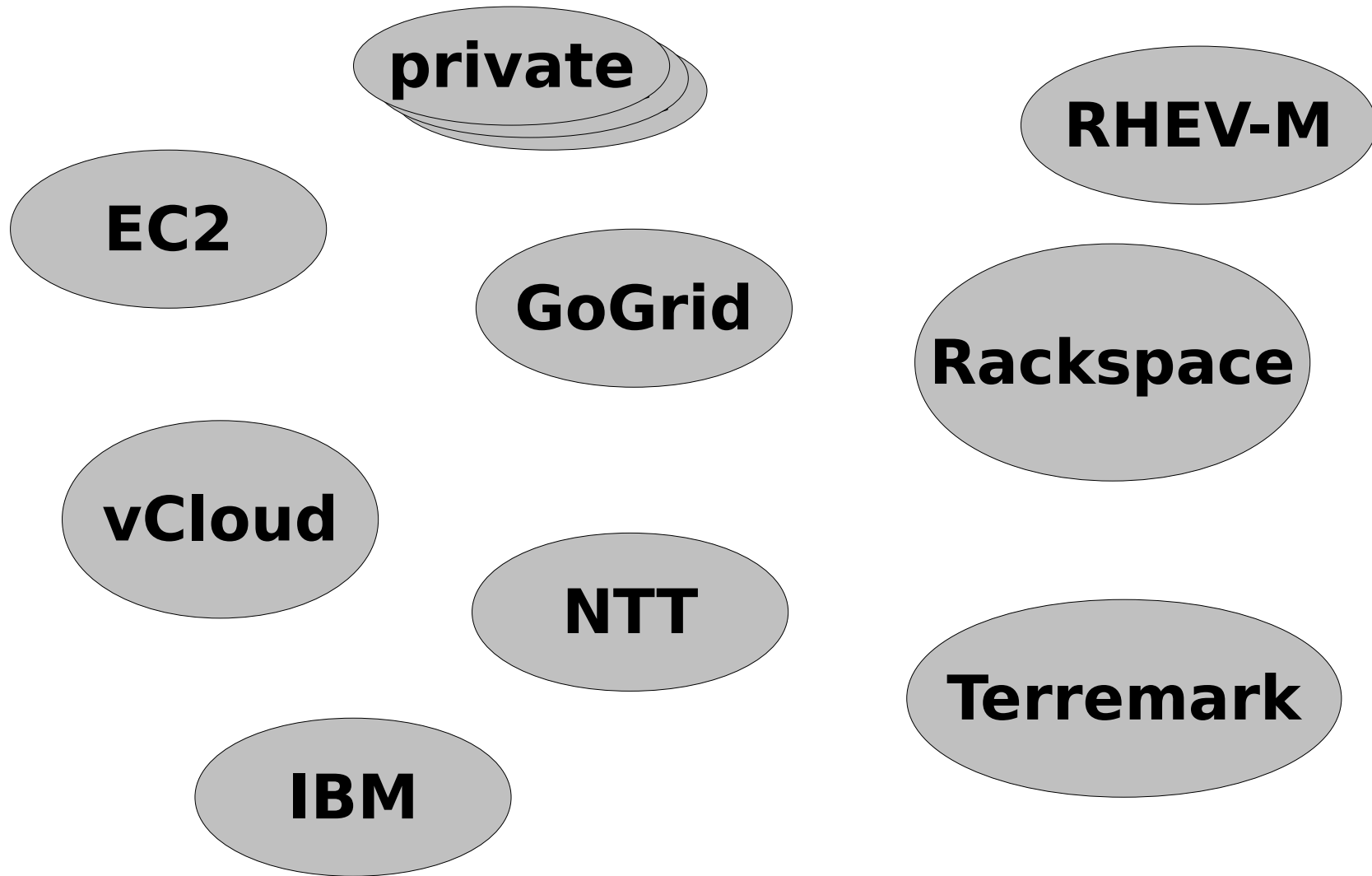
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# The Problem (part 1)



# The Problem (part 2)

**RHEL**

**Linux**

**Windows**

**RHEL**

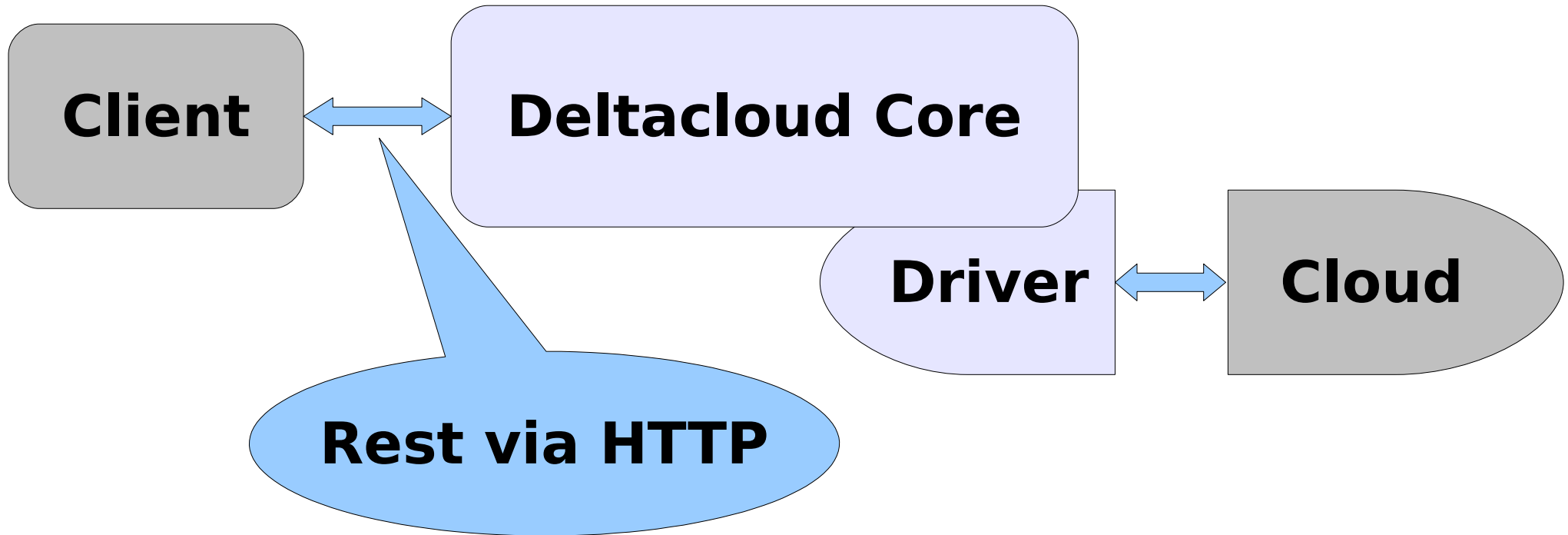
**Proprietary Management**

**Open Source virt (kvm/xen)**

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# Core Architecture



# Not a library ...

## Libraries

- jclouds (Java)
- libcloud/boto (Python)
- fog (Ruby)

## Webservice

- Deltacloud

# ... but many clients

- CLI
- Ruby
- Java
- C
- Python

# Core State of Affairs

**Images**

**Hardware Profiles**

**Realms**

**Instances**

**Volumes**

**Instance States**

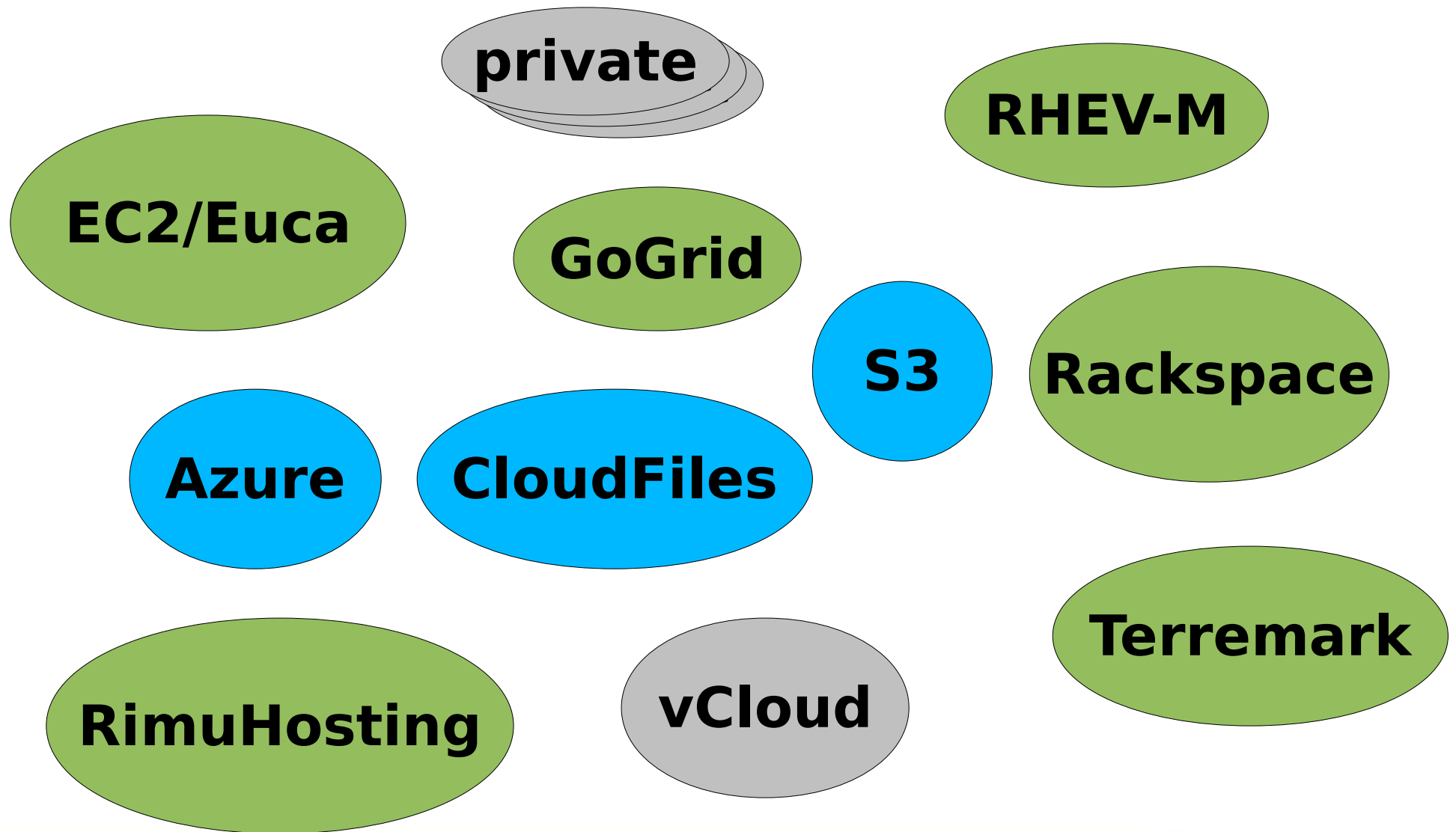
**Buckets/blobs**

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# Core Support



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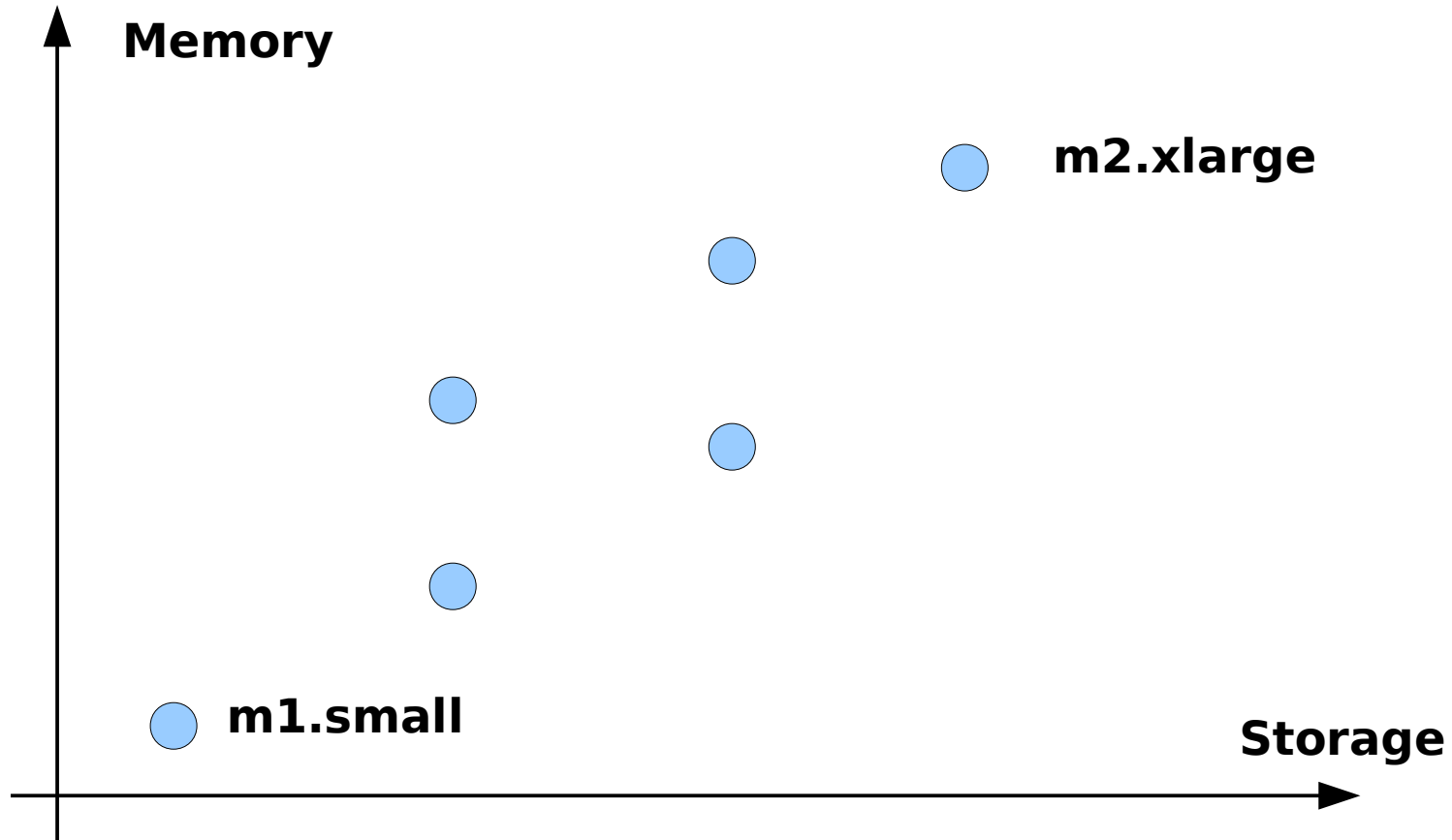
# API Principles

- One entry point
  - discover remainder of API from there
  - follow REST best practices
  - collections of objects
- Not lowest common denominator
- Base API + optional additions
  - Abstraction
  - Introspection
  - Features

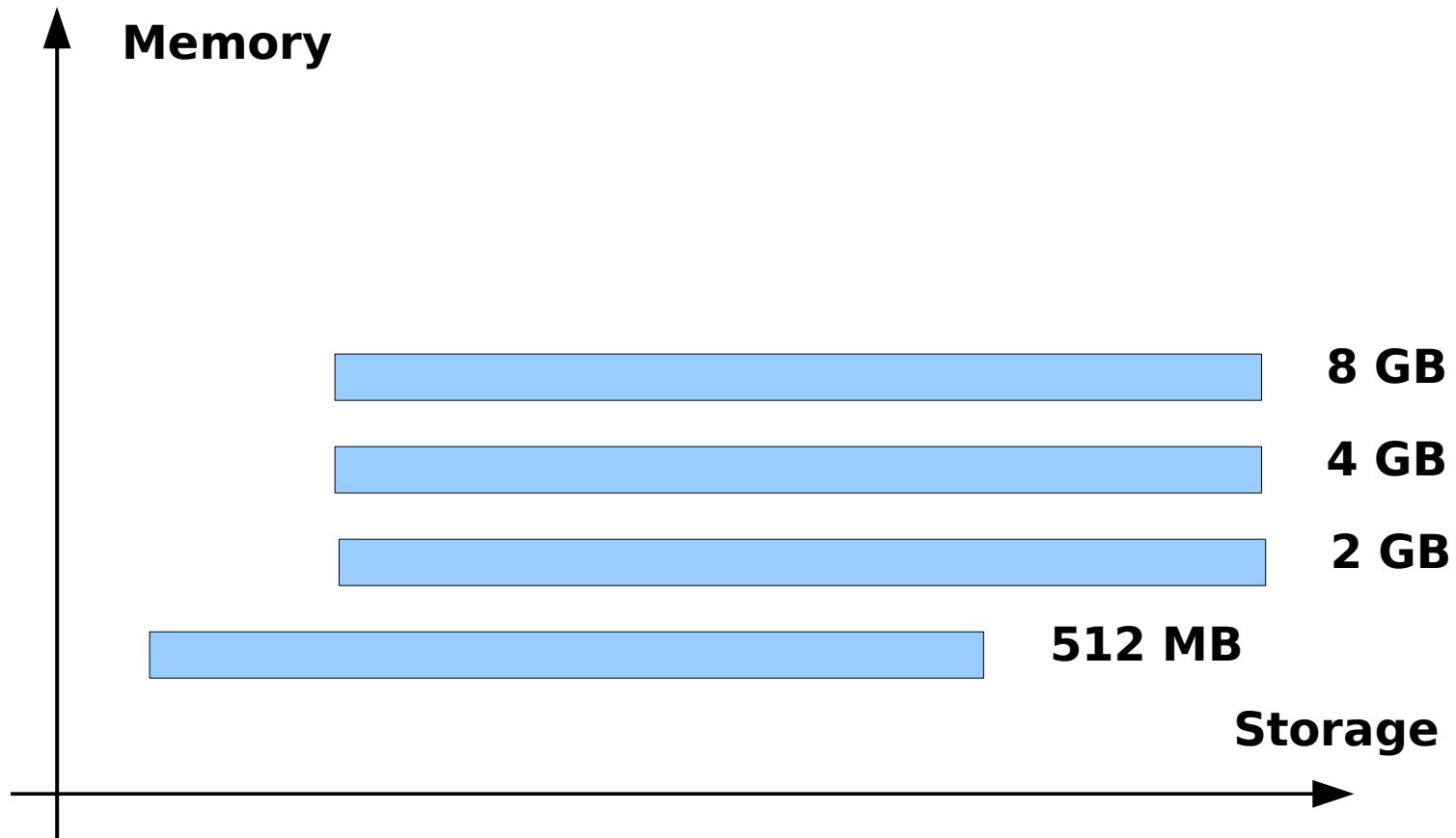
# Abstraction: Hardware Profiles

- Model description of virtual form factor
  - Huge differences between clouds
  - Model flexible enough to encompass them all

# Abstraction: Hardware Profiles



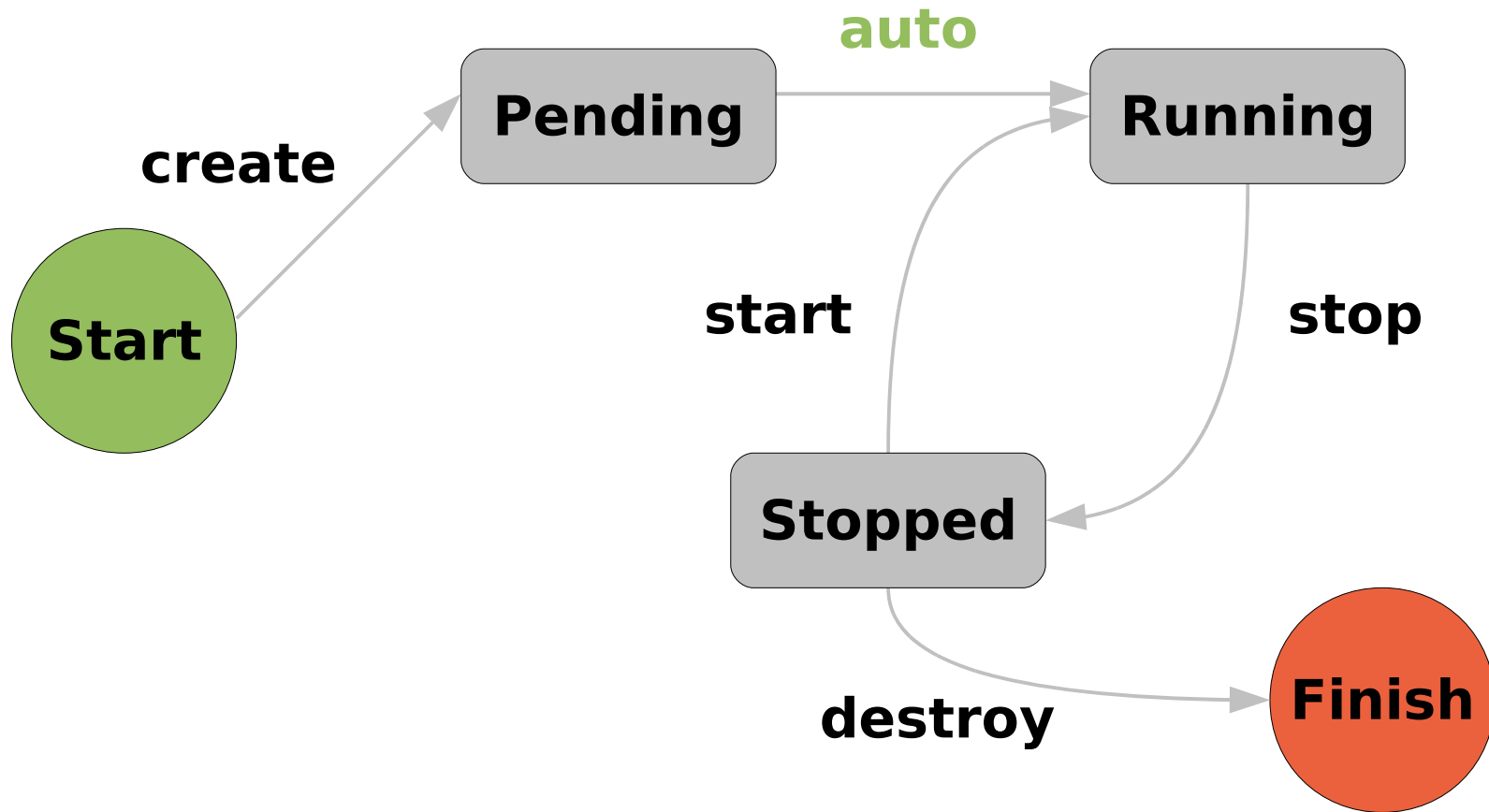
# Abstraction: Hardware Profiles



# Introspection: Responses

- Only mention supported collections
  - No instances in storage-only driver
- Each instance links to possible actions
  - avoids complex business logic in client
  - general overview through instances states
- Login details (usually for ssh)
  - Password vs. ssh key

# Introspection: Models



# Introspection: Features

- Advertise optional capabilities
  - Data injection
  - User-supplied name for instances
  - Bucket location in S3
- Part of entry point XML



# Introspection: Features

```
<api driver='mock' version='1.0'>
```

```
...
```

```
<link href='/api/instances' rel='instances' >
```

```
  <feature name='user-name' />
```

```
</link>
```

```
...
```

```
</api>
```

# Deltacloud Future

- Create images
- Runtime driver selection
- Drivers
  - revamp RHEV-M driver
  - vCloud
  - Google storage
- Firewalling
- Accounting

# Deltacloud Future

- Automated testing against actual clouds
- Formal API docs
- Technology Compatibility Kit

# Deltacloud Future

- Create images
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# Project Info

<http://incubator.apache.org/deltacloud/>

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