



Storage Services

Charles (Cal) Loomis & Mohammed Airaj

LAL, Univ. Paris-Sud, CNRS/IN2P3

24-25 October 2013



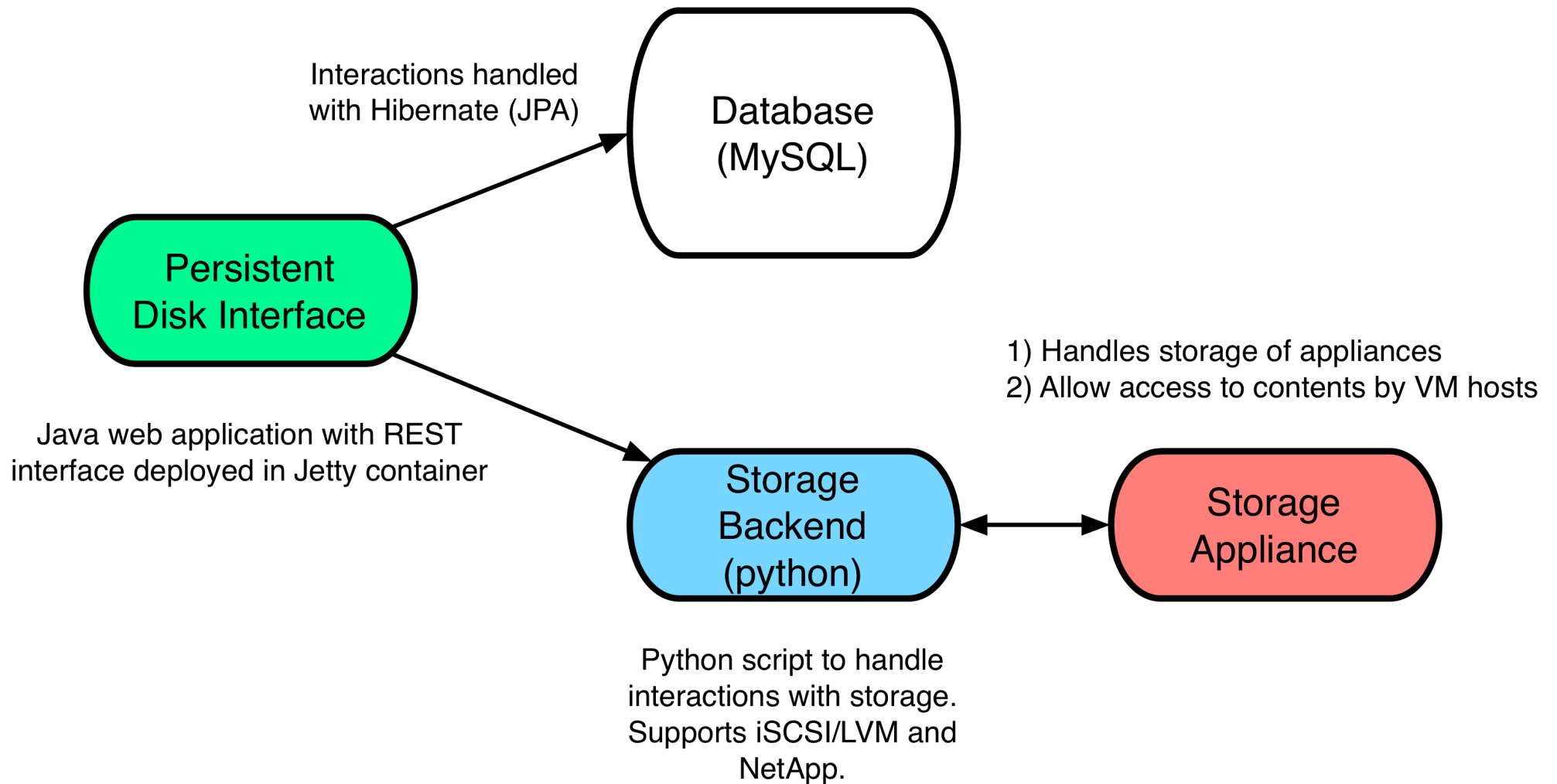
Features

- Volume abstraction for storage service
- Provide users with persistent storage for data
- Serves also as cache of images for VM instances
- (No file-based or object-based storage service)

Implementation

- API: Proprietary REST interface with CRUD actions
- Java-based service using MySQL database for state information
- Can use iSCSI or shared file system for physical storage
- Can use simple files or LVM volumes for disk content

Architecture



Persistent Disk Service



Persistent Disk Service	
daemon	pdisk
purpose	interface to storage
ports	8445
language	java (deployed in Jetty container)
external requirements	database (MySQL), storage service
config. files	<code>/etc/stratuslab/pdisk.cfg</code>
logs	<code>/opt/stratuslab/storage/pdisk/logs/*</code>

Persistent Disk Configuration



List and Set Parameters

```
$ stratus-config --keys -s persistent-disks
```

```
$ stratus-config persistent_disk_ip ${FRONTEND_IP}
$ stratus-config persistent_disk_merge_auth_with_proxy True
$ stratus-config persistent_disk_lvm_device /dev/vg.02
$ stratus-config persistent_disk_backend_sections \
"
    [%(persistent_disk_ip)s]
    type=LVM
    volume_name = /dev/vg.02
    lun_namespace = stratuslab
    volume_snapshot_prefix = pdisk_clone
    initiator_group =
"
```

WARNING: Do not use localhost IP (127.0.0.1) for service

Database (MySQL)



Install Database

- Normally MySQL is installed as part of OpenNebula installation
- Will do manually as we're doing this out of the usual order

```
$ yum install -y mysql-server
$ service mysqld start
$ mysqladmin -u root password 'root'
$ mysql -uroot -p root
```

Persistent Disk Installation



Normal Install Command

```
$ stratus-install --persistent-disk
```

Check

- Connect with a browser to <https://your-machine:8445/pswd/>
- Administrator account is called 'pdisk'
- Automatically generated random password in
 - `/etc/stratuslab/authn/login-pswd.properties`

Exercises



- 1. Configure and install persistent disk service**
- 2. Verify that the service is running via a browser**
- 3. Create, list, and destroy a persistent disk**

Questions and Discussion

website <http://stratuslab.eu>

twitter [@StratusLab](https://twitter.com/StratusLab)

support support@stratuslab.eu

StratusLab source <http://github.com/StratusLab>

SlipStream source <http://github.com/slipstream>



<http://stratuslab.eu/>

Copyright © 2013, Members of the StratusLab collaboration.

This work is licensed under the Creative Commons Attribution 3.0 Unported License (<http://creativecommons.org/licenses/by/3.0/>).

