



## **Marketplace and Appliance Management**

Charles (Cal) Loomis & Mohammed Airaj

LAL, Univ. Paris-Sud, CNRS/IN2P3

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# Appliances (a.k.a Images)



## Appliances

- Essentially a snapshot of an installed machines disk(s)
- Just a large file (~10 GB) containing disk image(s)
- “Appliance” usually implies a base OS plus customized services
- Appliances are “opaque” → detailed analysis to understand contents
- Can be created by users as well as administrators

## Security Concerns

- Users will have root access to the virtual machines
- Most users are not competent system administrators
- As usual, must balance security against utility of cloud service

# Marketplace & Appliance Handling



## Priorities

- Mechanism for sharing and trusting images
- Possible to distribute fixed, read-only data sets as well
- Split the storage of image metadata (~KB) and image contents (~GB)
- Have VM images of common OSes available

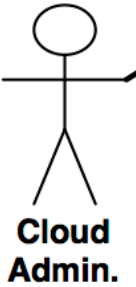
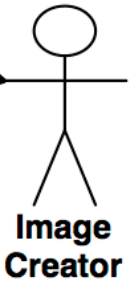
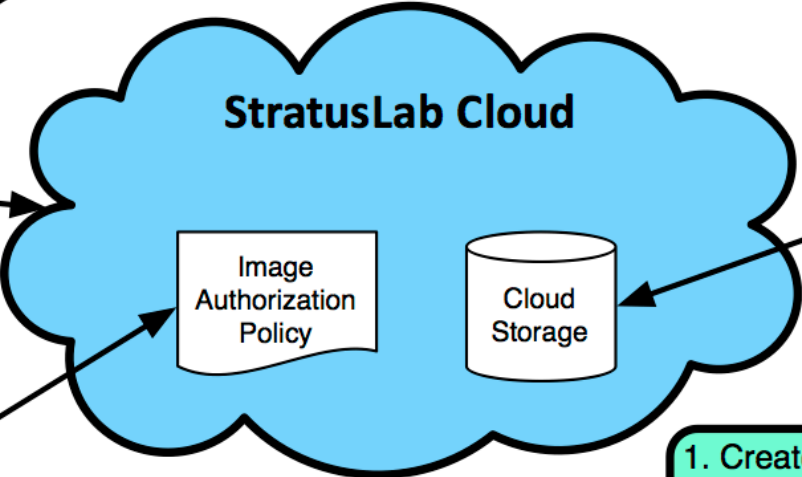
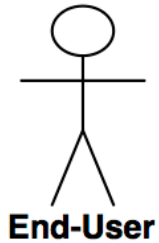
## Implementation

- Marketplace API: Proprietary REST API for create, read, search
- Marketplace acts as image registry and handles only metadata
- Image contents can be located on any public (web) server
- 'Private' images can also be held in cloud storage
- StratusLab images: CentOS, Ubuntu, OpenSuSE, Debian, Fedora, ScientificLinux

# Appliance Workflows

1. Browse the Marketplace for useful images.
2. Launch machine instance using machine and disk identifiers.

**Marketplace**  
Registry for Machine & Disk Metadata



1. Define image authorization policy. Images can be banned based on checksums, endorsers, etc.
2. Policy is evaluated for each image used on the infrastructure.

1. Create a machine or disk image.
2. Upload image to cloud storage or any web accessible location.
3. Create and sign the metadata for the image.
4. Upload the metadata to the Marketplace

# Marketplace Details



Marketplace	
daemon	marketplace
purpose	registry for appliances
ports	8443
language	java (deployed in Jetty container)
external requirements	none
config. files	/etc/stratuslab/marketplace.cfg
logs	/opt/stratuslab/marketplace/logs/*

# Marketplace



## Installation

```
$ yum install -y stratuslab-marketplace  
$ service marketplace start
```

## Configuration

- Default configuration should be fine

## Start

```
$ service marketplace start
```

## Check

- Connect to your instance with a browser: <https://mkplace:8443/>
- Ensure it functions like the central Marketplace

# Coming Soon



## Redundancy

- Coordinated distributed instances with failover
- Likely to share Marketplace entries via git
- Failover with DNS round robin and intelligent clients

## Federation

- Ability to aggregate information from different instances for a cloud
- Allows deployment and use of public and private Marketplaces
- Likely to be done via “machine image” resources in CIMI

# Exercises



- 1. Browse primary Marketplace to see what appliances exist.**
- 2. Install your own Marketplace on the frontend.**
- 3. Connect to your instance and make sure it works correctly.**
- 4. Download some metadata descriptions from central Marketplace and upload into your Marketplace**



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# Questions and Discussion

website <http://stratuslab.eu>

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

support [support@stratuslab.eu](mailto:support@stratuslab.eu)

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

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



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