



# Stratuslab tutorial

## Appliance overview

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April 16th, 2015

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H2020-ICT-644925 – CYCLONE

Complete Dynamic Multi-cloud Application Management

- **Definition**
  - A generic disk image with an OS and eventually some packages
- **Goal**
  - An application stack easily deployable over a cloud
- **Benefits**
  - Propose an easy way to use cloud resources
  - Standardize cloud usage
- **Requirements**
  - Disk image must be supported by targeted cloud
  - Contextualization

- **Appliance lifecycle steps**
  - Creation
  - Storage
  - Transport
  - Authorization

- **Several image formats**
  - RAW
  - FVD
  - QCow2
  - VirtualBox VDI
  - VMWare VMDK
  - Microsoft VHD
  - Ovf (standard)
  - ...

- **Requirements**

- The appliance must contain contextualization tools
- Cloud infrastructure may propose contextualization services

- **Goals**

- Customizing virtual machine
  - Network params
  - Ssh access
  - Start services etc.

- **Technics**

- Cloud-init (<https://help.ubuntu.com/community/CloudInit>)
- Hepix (<http://grid.desy.de/vm/hepix/vwg/doc/html/start/contextualisation-principles.shtml>)

- **Appliances can be created**
  - From scratch
    - Hardest: should be avoid
  - From a factory
    - Out of the box; one can customize provided appliance
      - ➔ <http://www.bitnami.org>
  - From a existing OS
    - Allow incremental generations
      - ➔ <http://manpages.ubuntu.com/manpages/lucid/en/man1/vmbuilder.1.html>
      - ➔ <https://fedoraproject.org/wiki/Features/ApplianceTools>
      - ➔ <https://github.com/jedi4ever/veewee>

- **Good practices**
  - Remove all specificities
  - stop unneeded services
  - Include contextualization tools

Service/ package	Recommandations
Firewall	deactivated
SSH security	Allow electronic keys only
Boot protocol	DHCP
Contextualization	Cloud-init, Hepix
udev	<code>rm -f /lib/udev/rules.d/*net-gen*</code> <code>rm -f /etc/udev/rules.d/*net.rules</code>
selinux	deactivated
swap	Include swap disk in fstab
acpid	Needed for volume hot plug
Hostname	Clean hostname installation reference

- **Goals**
  - A public store
  - An appliance sharing system
  - An easy way to retrieve appliances



- Stores appliances metadata, including URI
  - ➔ Does not store appliances themselves
- Publishes appliances metadata
- A Web service
- A REST interface

https://marketplace.stratuslab.eu/marketplace/metadata

## Metadata

Show 10 entries

Search...

### SlipStream-02586f06-4685-4ace-8ffa-44d7559f4905

Endorser: jane.tester@example.org  
Identifier: GnxeKy5Ot1bifkZv0dxdNRt1PI  
Created: 2015-03-24T23:38:54Z  
Kind: machine

[More...](#)

### SlipStream-a05b1986-015c-43d9-9ea1-000bbbbde75f

Endorser: jane.tester@example.org  
Identifier: DSDLe1f\_w1FBjNdyrglV128Jsxv  
Created: 2015-03-24T22:31:44Z  
Kind: machine

[More...](#)

### SlipStream-556a6b72-15c8-4911-8dc4-5d530aff9600

Endorser: jane.tester@example.org  
Identifier: LKFNW5u6OZI7I1J-9uyvo2TTRbQ  
Created: 2015-03-24T18:09:29Z  
Kind: machine

[More...](#)

Status:

valid

Location:

all

Filter:

Search os

Search version

Search arch

Search endorser

search kind

Sort by:

Search  
Criteria

Appliance  
Summary

## Appliance details

Endorsed by jane.tester@example.org at 2015-03-24T23:38:54Z

<b>Identifier</b>	GnxerKy5Ot1bifkZv0dxdNRt1PI	
<b>Type</b>	base	
<b>Kind</b>	machine	
<b>Format</b>	raw	
<b>OS</b>	CentOS v6.6 x86_64	
<b>Version</b>	1.2.30	
<b>Created</b>	2015-03-24T23:38:54Z	
<b>Valid</b>	2015-09-22T23:38:54Z	
<b>Hypervisor</b>	kvm	
<b>Publisher</b>	StratusLab	
<b>Bytes</b>	32212254720	
<b>Checksum</b>	<b>MD5</b>	3dee82c0eeb0167c922357fb69de9796
	<b>SHA-1</b>	69f17ab2b2e4eb756e27e466fd1dc5d351b753e5
	<b>SHA-256</b>	b02cf883451c54e61bc65b00241977b2dffcdafb 28bb01bafd76188ee3ca7a4b
	<b>SHA-512</b>	151f8d3cb9581ae1abbdb00b71706aabd170e889 9fb177de337d22fc2aedd60a1364a7dd5b249a5b db3b85c6bfbad2e97232308c96688a4058c24dbe 66eb2572
	<b>Location</b>	<a href="#">pdisk:10.216.64.9:8445:19f4ea26-09b7-42e3-a7ce-b6da85365fec</a>

[xml](#)[json](#)

- **Goal**
  - The appliance must be transferred to the cloud infrastructure
- **Transparency**
  - Stratuslab transport appliances transparently
- **Integrity**
  - Appliance integrity is checked
- **Cache**
  - Transported once
  - Locally stored in a persistent disk

- **Users**
  - Find and use existing appliances
- **Creators**
  - Publish appliances
- **Administrators**
  - Verify appliances

<http://stratuslab.readthedocs.org/en/latest/user-guide/06-storage-mgt.html>