

APPSCALE



EUCALYPTUS



cloudstack



CeBIT

openstack™

CLOUDSKY
Your Data. Your Cloud. Your Business.

Topics I

- CaMuS
 - Cloud aware Content Management Framework
- OpenCAMP
 - Open Cloud Application Management Platform
 - **AppScale**
 - Cloud Foundry
 - OpenShift
- Open Cloud Operating Systems
 - Apache CloudStack
 - Eucalyptus
 - OpenNebula
 - OpenStack
- CRaaS: Cloud Relocation as a Service
 - Aeolus
 - CumuLogic

Topics II

- SaaS 2.0
 - **OaSe***: **OpenCms** as a **Service**
 - Cloud Sites
- SaaS 3.0
 - Google Apps (Gmail, Google Docs)
- Cloud Assessment Services
- Cloudify: Cloud Application On-Boarding
- Open Cloud Configurator

CaMuS

- A cloud ready Content Management Framework for:
 - Developing high scalable cloud sites on public and private PaaS Clouds
 - Is the foundation to build tailored Cloud Aware Content Management Systems
- Runs on Google App Engine
- Runs on AppScale, on OpenShift and Cloud Foundry

Why CaMuS

- Traditional CMSes ...
 - DO NOT SCALE
 - Are not cloud ready
 - Do not provide HA out of the box
 - Do not integrate properly with 3rd party DMS (e.g. Google Docs)
 - Are not designed to build hybrid cloud content management solutions
- CaMuS provides
 - Autoscaling on PaaS
 - Multitenancy
 - Inline editing
 - Datastore agnostic
 - Supports any web frameworks and templating engines
 - Time Machine Engine – Content Snapshot
 - Staging of new versions and content (Offline Preview before publishing)

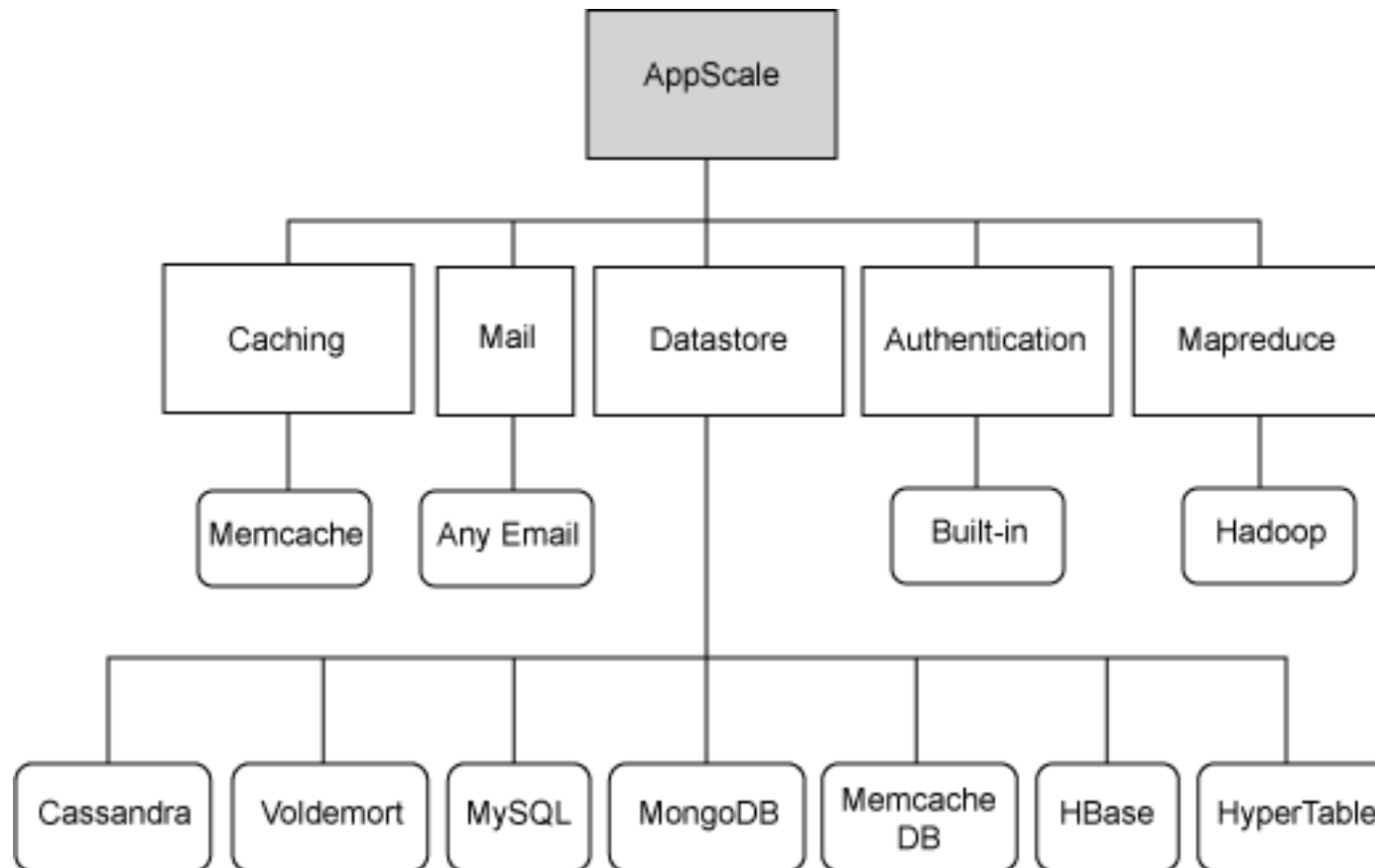
OpenCAMP.org

- Hybrid Cloud Application Management Platform
 - Is a technology to run Polyglot Open PaaS services, like:
 - **AppScale**
 - Cloud Foundry
 - OpenShift Enterprise
- Provides the ability to develop any application, written in **any language** on **any framework** of choice.
- Is built on top of:
 - Apache CloudStack
 - Eucalyptus
 - OpenStack
- Integrates with:
 - HP PaaS (Cumulogic and Stackato)
 - Google App Engine
 - Cloud Foundry
 - RedHat PaaS Cloud

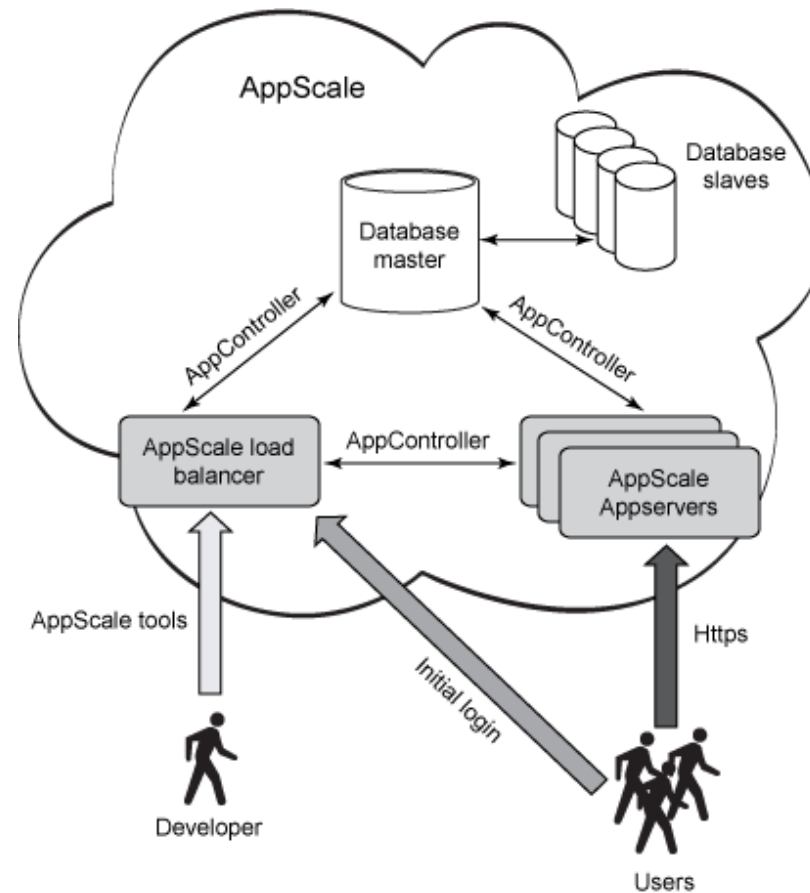
AppScale

- Open source implementation of the Google App Engine APIs from the RACELab at University of California, Santa Barbara.
- Is in active development and is maintained by a great team at AppScale Systems and supported by [AppScale Community](#).
- Runs on virtualized and non- virtualized clusters and on IaaS:
 - Bare Metall
 - Amazon EC2
 - Eucalyptus Cloud
 - Virtualized clusters:
 - OpenStack
 - CloudStack
- Provides auto-scaling on EC2 and Eucalyptus.


AppScale Services Implementation



AppScale Architecture



AppScale rock & rolls 😊


AppScale
 The Open App Engine Cloud.
 admin@cloudssky.com | [Logout](#)

[Home](#)
[Upload App](#)
[Delete App](#)
[Status](#)
[Authorize](#)

API Status:

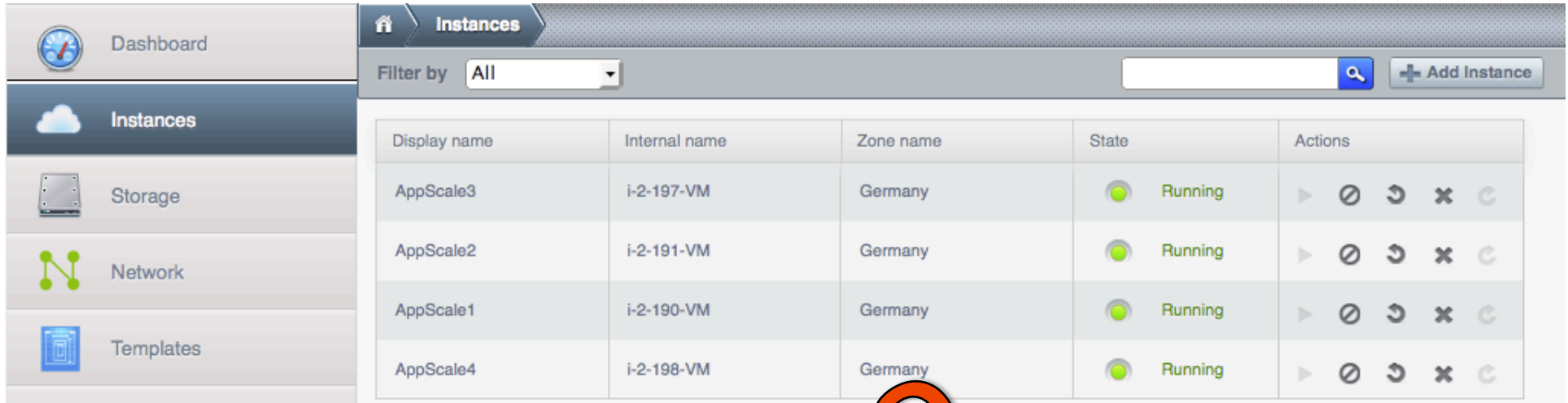
Service Name	Health
blobstore	✓
datastore	✓
images	✓
memcache	✓
taskqueue	✓
urifetch	✓
users	✓
xmpp	✓

CPU / Memory Usage:

























IP Address	CPU Usage	Mem Usage	Hard Disk Usage	Cloud	Role(s)
212.224.122.103	83.5%	36.71%	25%	cloud1	db_slave, memcache, rabbitmq_slave, appengine
212.224.122.110	78.9%	87.69%	25%	cloud1	load_balancer, shadow, db_master, zookeeper, login, memcache, rabbitmq_master

DEMO

AppScale on CloudStack



The screenshot shows the CloudStack web interface. On the left is a navigation sidebar with icons for Dashboard, Instances, Storage, Network, and Templates. The main content area is titled 'Instances' and features a 'Filter by' dropdown set to 'All', a search box, and an '+ Add Instance' button. Below this is a table listing four AppScale instances, all in a 'Running' state.

Display name	Internal name	Zone name	State	Actions
AppScale3	i-2-197-VM	Germany	 Running	    
AppScale2	i-2-191-VM	Germany	 Running	    
AppScale1	i-2-190-VM	Germany	 Running	    
AppScale4	i-2-198-VM	Germany	 Running	    

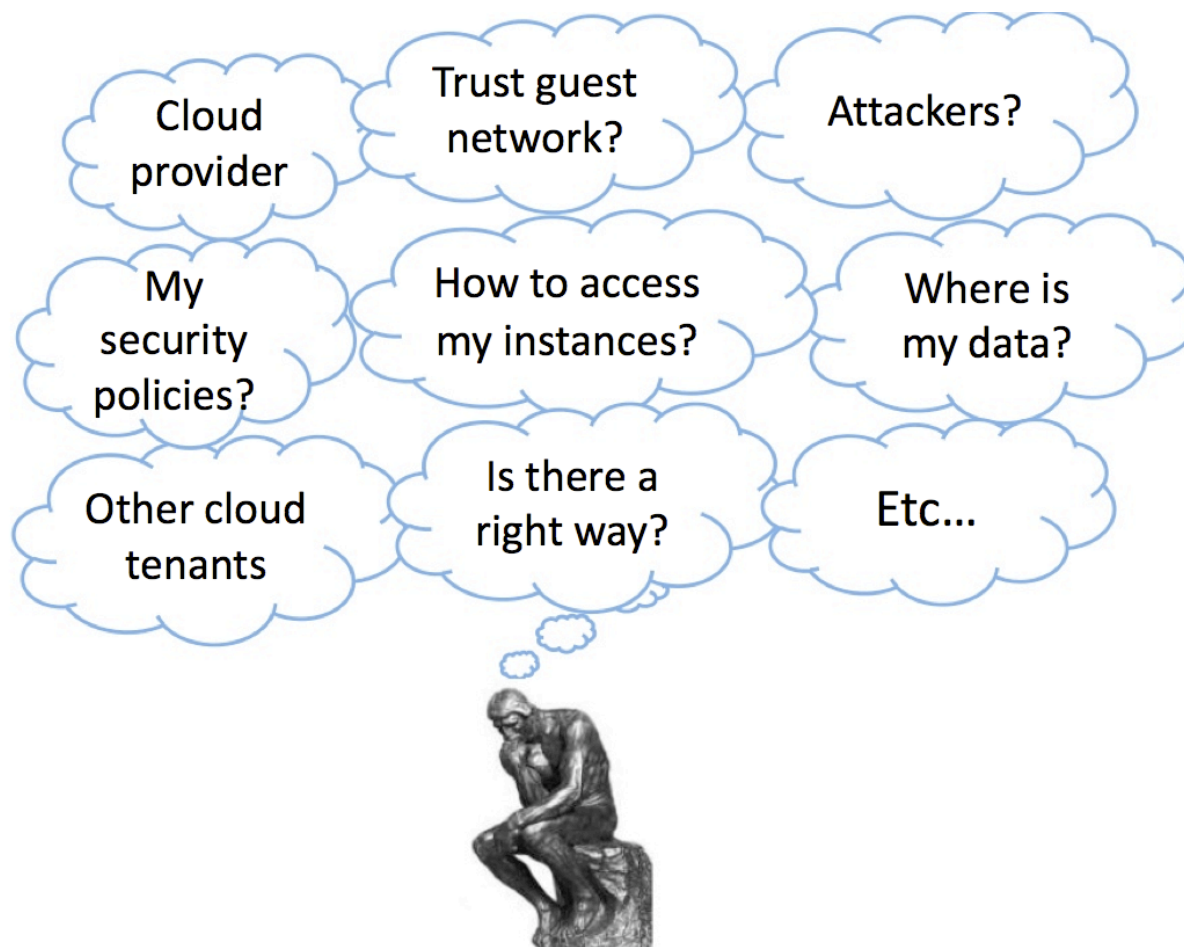
DEMO

Private Cloud Solutions

Name	License	API	EC2	S3	EBS	Hypervisor
Apache CloudStack (Citrix CloudPlatform)	Apache v2.0	CloudStack , AWS	Part.	YES	no	KVM,XEN, VMWare, OVM, BareMetal, (LXC)
Eucalyptus	GPLv3	AWS	YES	YES	YES	KVM, XEN, WMware
OpenStack	Apache v2.0	OpenStack , AWS	Part.	no	YES	KVM,XEN, LXC, UML
OpenNebula	Apache v2.0	OCCI,AWS	95%	no	In work	KVM, XEN, Vmware, VirtualBox

Compare

Which Public Cloud Provider (I) ?



Which Public Cloud Provider (II)?

- Amazon (IaaS, PaaS, SaaS Marketplace)
- AT&T
- CloudSigma
- ElasticHost
- Google (GCE, GAE)
- GoGrid
- IBM SmartCloud
- Microsoft (Azure PaaS, SaaS)
- ProfitBricks
- Rackspace
- SalesForce
- SoftLayer
- OpSource
- Joyent
- Terremark Worldwide



protect



risk



threats



surface



Cloud Assessment-Tool

- Application Security
- Operational Security Audit Logs
- Encryption
- Key Management
- Disaster Recovery
- Backup
- Incident Management
- Vulnerability Testing / Malicious Software
- Physical Security Environmental Controls
- Legal Requirements
 - In which country is the provider located?
 - Where will the data be physically located?
 - Is it possible to audit the cloud provider on-site?
 - Will any of services be outsourced?

Questionair

OpenCms CloudSites on CloudStack

CloudPlatform 2 Notifications Default View Project View admin cloud CITRIX®

Dashboard

Instances

Storage

Network

Templates

Events

Filter by All + Add Instance

Display name	Internal name	Zone name	State	Actions
OpenCmsCloudSites	i-2-24-VM	Germany	● Running	▶ ⏸ ↺ ✕ ↻
OpenCmsActive	i-2-21-VM	Germany	● Running	▶ ⏸ ↺ ✕ ↻
CentOS 5.5 ATM	i-2-20-VM	Germany	● Stopped	▶ ⏸ ↺ ✕ ↻
LoadBalancerNginx	i-2-23-VM	Germany	● Running	▶ ⏸ ↺ ✕ ↻
OpenCmsStandby	i-2-22-VM	Germany	● Running	▶ ⏸ ↺ ✕ ↻

DEMO

OaSe*: OpenCms as a Service?

- OpenCms can be delivered through:
 - Public
 - Private
 - Community
 - and Hybrid cloud service delivery models
 - or even on traditional dedicated servers
- Create OpenCms **Sites** On-Demand
 - OpenCms Cloud Sites (**for business users**)
 - OpenCms on CumLogic PaaS (**for developers**)
- Deploy multiple OpenCms **Instances** in 5 minutes (Demo)
 - Deploy a full featured OpenCms Instance with Apache, Tomcat and MySQL on Apache CloudStack or OpenStack (**for developers and solution providers**)
- Run OpenCms in 5 Seconds (Demo)
- Challenges to run OpenCms as a Service →

*OaSe: means in German the Oasis ☺

Integrate OpenCms with:

- Media Server (Red5) → RFS Module (Demo)
- LDAP (ADS, IBM Tivoli) → LDAP Module (Demo)
- IBM WebSphere
- SAP
- Microsoft Lync / SharePoint
- **DONE** by our Partner **Metamesh**



Private Cloud (Java) PaaS

- Appscale (OS* Google App Engine)
- Aprrenda
- VMWare Cloud Foundry (OS*)
- Stackato (based on Cloud Foundry)
- Cumulogic (CAP*)
- RedHat OpenShift (OS*)
- Uhuru
- WSO2 Stratos

*CAP: Cloud Application Platform: is a technology to build the PaaS layer on any IaaS Cloud. CAP can be used for development and runtime management and moving workloads btw. Clouds. Source: [Cumulogic PaaS white Paper](#).

OpenCms BleedingEdge on OpenStack

ubuntu OpenStack Dashboard

 Logged In as: admin Settings Sign Out

Project Admin

PROJECT
admin

Manage Compute

Overview

Instances & Volumes

Images & Snapshots

Access & Security

Instances & Volumes

Success: Instance "OpenCmsBleedingEdge" updated.

Launch Instance
Terminate Instances

	Instance Name	IP Address	Size	Status	Task	Power State	Actions
<input type="checkbox"/>	OpenCmsBleedingEdge	192.168.22.19 212.224.122.73	2GB RAM 1 VCPU 10.0GB Disk	Active	None	Running	Edit Instance
<input type="checkbox"/>	OpenMeetings	192.168.22.16 212.224.122.71	4GB RAM 2 VCPU 10.0GB Disk	Active	None	Running	Edit Instance
<input type="checkbox"/>	RHEL56	192.168.22.18	4GB RAM 2 VCPU 10.0GB Disk	Active	None	Running	Edit Instance
<input type="checkbox"/>	Ubuntu11	192.168.22.1	4GB RAM 2 VCPU 10.0GB Disk	Active	None	Running	Edit Instance
<input type="checkbox"/>	CentOS62	192.168.22.17	4GB RAM 2 VCPU 10.0GB Disk	Active	None	Running	Edit Instance
<input type="checkbox"/>	Fedora16	192.168.22.11	4GB RAM 2 VCPU 10.0GB Disk	Active	None	Running	Edit Instance
<input type="checkbox"/>	Ubuntu 12.04 LTS	192.168.22.8 212.224.122.72	4GB RAM 2 VCPU 10.0GB Disk	Active	None	Running	Edit Instance

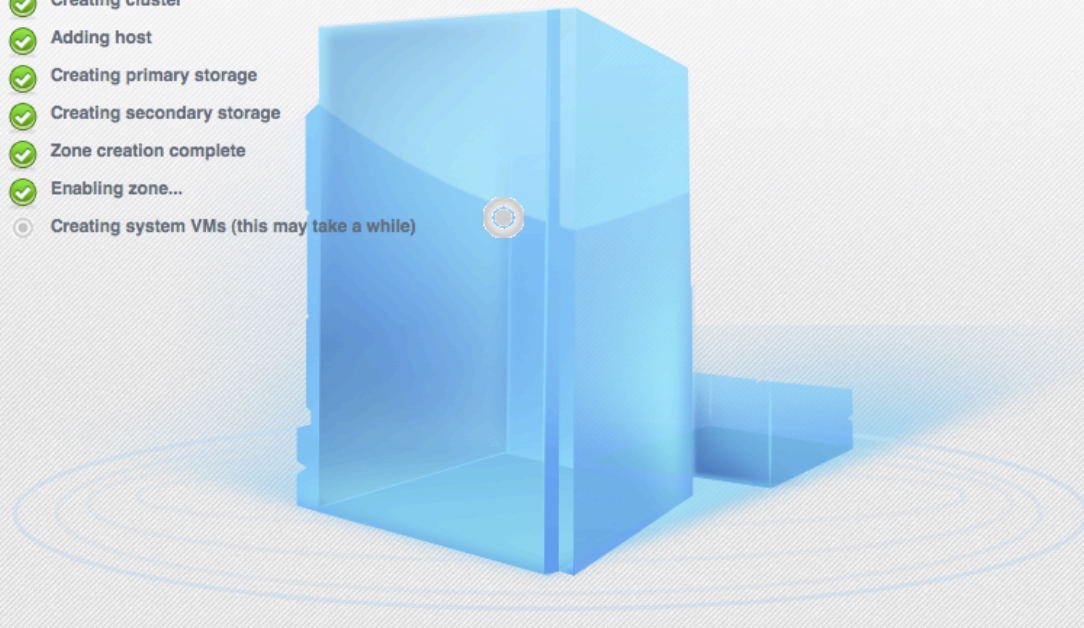
DEMO



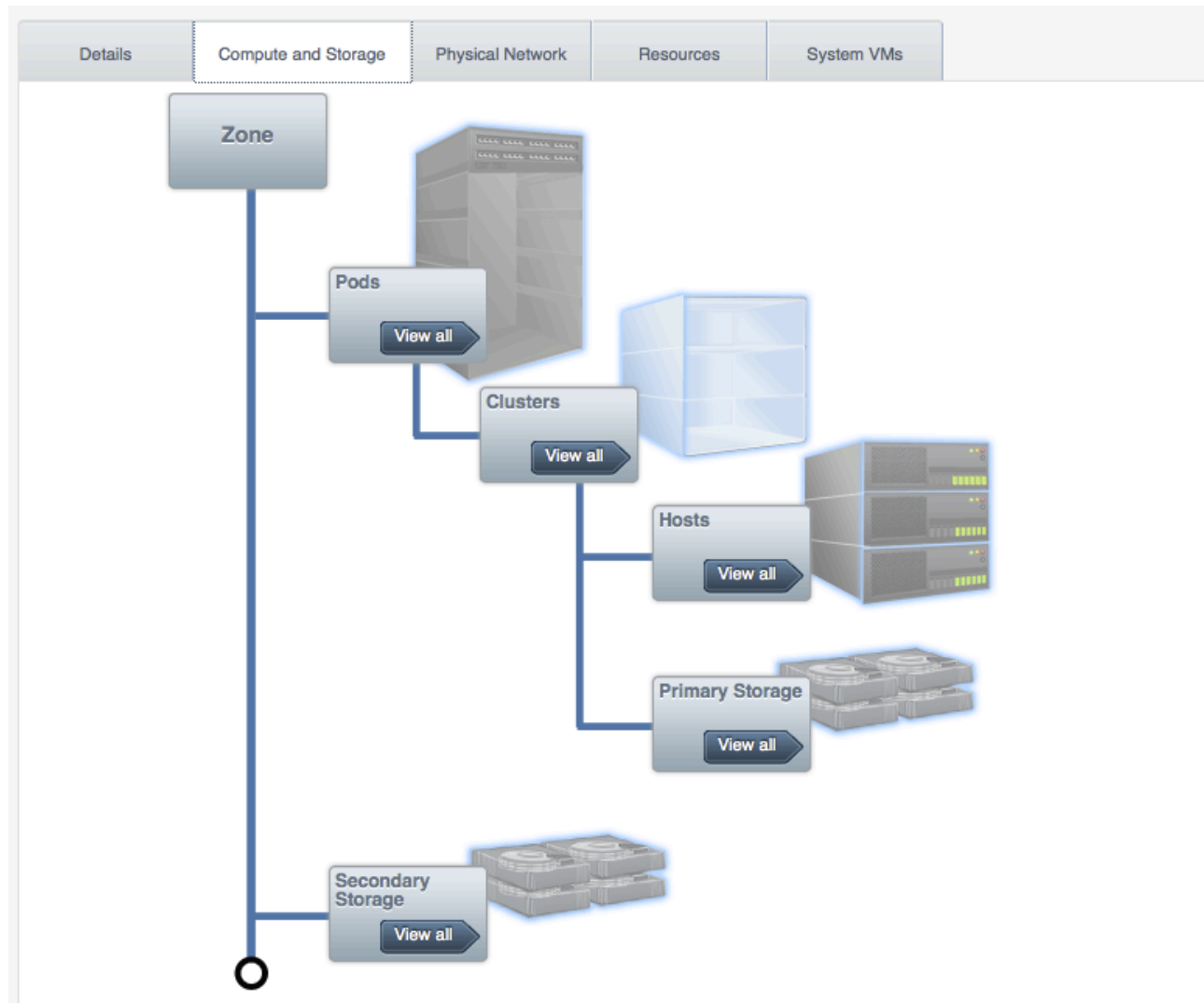
Build Your Cloud in 1 day with Apache CloudStack

Now building your cloud...

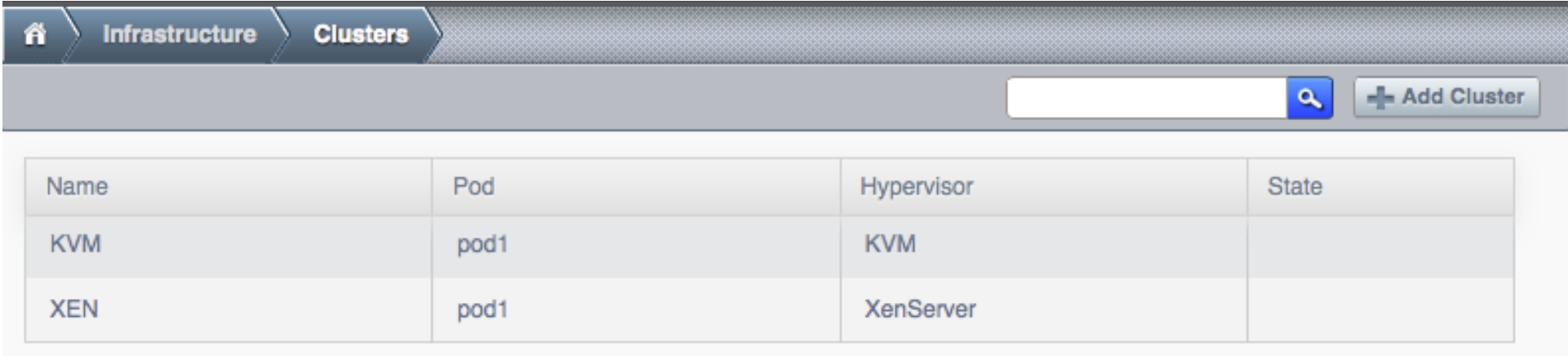
- Creating zone
- Creating physical networks
- Configuring physical networks
- Enabling Security Group provider
- Creating guest network
- Creating pod
- Configuring guest traffic
- Creating cluster
- Adding host
- Creating primary storage
- Creating secondary storage
- Zone creation complete
- Enabling zone...
- Creating system VMs (this may take a while)



Build Your Virtual Private Data Center



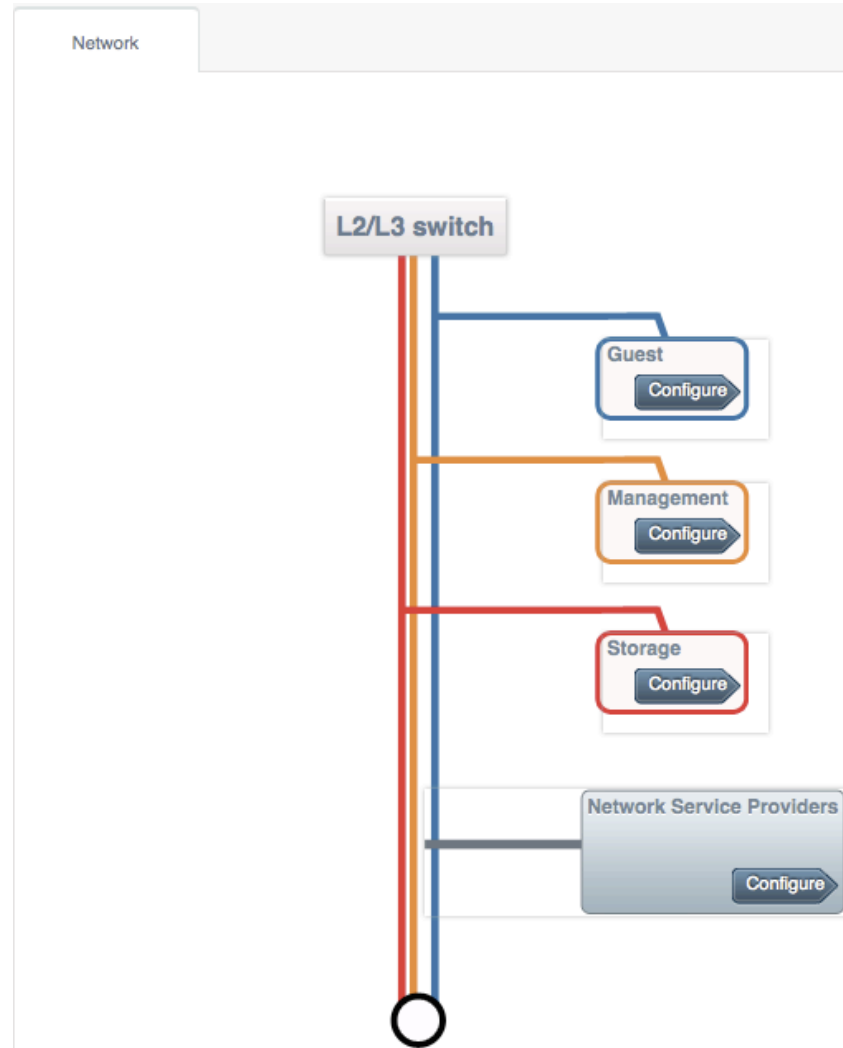
Create KVM and Xen Clusters



The screenshot shows the 'Clusters' management page in the CloudSky interface. At the top, there are navigation tabs for 'Infrastructure' and 'Clusters'. Below the tabs is a search bar and an 'Add Cluster' button. The main content is a table with the following data:

Name	Pod	Hypervisor	State
KVM	pod1	KVM	
XEN	pod1	XenServer	

Create the Network



Add Instance

1

Setup

2

Select a
template

3

Compute
offering

4

Data Disk
Offering

5

Network

6

Review

Select a zone

A zone typically corresponds to a single datacenter. Multiple zones help make the cloud more reliable by providing physical isolation and redundancy.

Germany

Select ISO or template

Template

OS image that can be used
to boot VMs

ISO

Disc image containing data
or bootable media for OS



Cancel

Next

Add Instance

1 Setup > 2 **Select a template** > 3 Compute offering > 4 Data Disk Offering > 5 Network > 6 Review

Please select a template for your new virtual instance.

Featured Community My templates

- OpenCmsBleedingEdge**
OpenCmsBleedingEdge
- CloudSites**
CloudSites
- CloudSitesInitTemplate**
CloudSitesInitTemplate
- CentOS 5.5(64-bit) no GUI (KVM)**
CentOS 5.5(64-bit) no GUI (KVM)



Previous

Cancel

Next

Add Instance

1

Setup

2

Select a
template

3

Compute
offering

4

Data Disk
Offering

5

Network

6

Review



Large Instance

Large Instance



Medium Instance

Medium Instance



Small Instance

Small Instance



Previous

Cancel

Next

Add Instance

- 1** Setup
- 2 Select a template
- 3 Compute offering
- 4** Data Disk Offering
- 5 Network
- 6 Review

No Thanks

Medium
Medium Disk, 20 GB

Large
Large Disk, 100 GB

Custom: 1 GB
Custom Disk, 1 GB

Disk Size **1 GB**  **1024 GB** **GB**

Previous

Cancel

Next



Add Instance

- 1 Setup
- 2 Select a template
- 3 Compute offering
- 4 Data Disk Offering
- 5 Network
- 6 Review

Please select security group(s) for your new VM

OaSe



Previous

Cancel

Next

Add Instance

1 Setup > 2 Select a template > 3 Compute offering > 4 Data Disk Offering > 5 Network > 6 Review

Please review the following information and confirm that your virtual instance is correct before launch.

Name (Optional)	<input type="text" value="OpenCmsBleedingEdge"/>
Add to group (Optional)	<input type="text"/>
Zone	Edit
Hypervisor	Edit
Template	Edit
Compute offering	Edit
Data Disk Offering	Edit
Network	Edit



Previous

Cancel

 Launch VM

Long live OpenCms!

Alkacon **OpenCms 8.5 Demo Website**
Welcome to OpenCms

OpenCms

Welcome to OpenCms Release Notes **Demo [English]** Demo [Deutsch] Developer Demo

Demo [English] » Wonderful World of Flowers


Wonderful World of Flowers

- Flower Today
- Flower Dictionary
- Flower Inheritance
- Flower Extranet
- Flower Search
- Flower Subscription

Starting page

This page is based on a structured content for text blocks. Such types can be defined by yourself for editing and rendering structured contents.

Welcome OpenCms Days Participants



Subheadline here....

OpenCms 8.5 Bleeding Edge version and the Wonderful World of Flowers presents the most spectacular and amazing stories about flowers from around the world. Entertaining and with lots of useful information. Let us **take** you into the adventurous world of flowers around the globe! Right.. something more

OpenCms 8.5 Demo Content

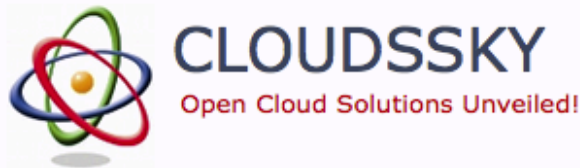
This demo content shows how the features of OpenCms 8.5 are used to create great looking websites.

Search For Content

Page Subscription

OpenCms and the Open Cloud Configurator

| Info: +49 221 55 405 385 | [Contact](#) | [OS Cloud Panel](#)



[Open](#) | [Cloud Services](#) | [Careers](#) | [Events](#) | [Vision](#)

OpenCloudConfigurator

0 1 2 3 4 5 6 7 8

Number of vCPUs	Memory(in MB)	Storage(in GB)	Monthly Price(in €)*	Server-Region	Cloud Apps
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="text" value="0.00"/>	Europe	- not selected -

*Free 30-day trial

Next

DEMO

- not selected -
- Alfresco
- CumuLogic
- OpenCms**
- OpenMeetings
- ownCloud
- Zentyal SBS
- Zimbra OS

Connecting to any Open Cloud, every where, with OCC

What we offer (I)

KnowHow as a Cloud-Enabler:

- We Build Clouds: Design, Architecture, Processes
- Open Source Tool-Chain for the Cloud
- We Build Clouds with our Partners:
 - AppScale Systems
 - C12G Labs
 - Canonical
 - Citrix
 - Rackspace
 - First-Colo
- Cloud Computing Migration Framework
- Cloud Computing Security and Privacy Recommendations
- Automation (Puppet, Chef, RunDeck)
- Monitoring, Event and Performance Management
- Virtualization for Private, Community and Hybrid Cloud Environments
- Metering, Billing, Reporting, Self Service Portal and Provisioning

What we offer (II)

KnowHow as a Cloud-Enabler:

- Help our clients to choose the right solution
 - Define what they want first, then match the right solution
 - Short term goals
 - Long range vision
 - Provide Open Cloud Labs, let them Try before they Buy
 - Include target users in the selection process
- Build your own **Open Cloud Application Management Platform (OpenCamp)**



Thanks!