

Web interfaces

- Ganeti web manager
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 - Overview
 - Quick demo

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Some images borrowed/modified from Lance Albertson and Justin Pop

Ganeti Web Manager Overview

- Web-based management system
- Easier management: no commands to remember
- Delegate authority: enables "self-service management" for users
- A project of OSU Open Source Lab
 - Written in Python using the Django web framework
 - GPLv2

Users and Groups

- User/Group model (independent, not tied to LDAP, etc.)
- A user can be in any number of groups
- User/Groups have fine-grained settings on what they can/can't do
- Admin Permissions
 - Control what a user/group can do on each cluster and instance
- Quota System
 - Restrict resource usage by user or group

Cluster Permissions (1)

admin

Grants full access to the cluster. Includes ability to set permissions and quotas, and full access to all virtual machines.

create_vm

Grants ability to create virtual machines on the cluster.

tags

Grants ability to set tags on the cluster.

replace disks

Ability to replace disks of VMs on the cluster.

Cluster Permissions (2)

migrate

Can migrate a VM to another node

export

Can export a virtual machine

Instance Permissions

admin

Grants full access to the virtual machine, including granting permissions.

modify

Allows user to modify VM's settings, including reinstallation of OS

remove

Permission to delete this VM

power

Permission to start, stop, reboot, and access console

tags

Can set tags for this VM

Quotas

- Restricts resources used by users and groups
 - RAM
 - disk space
 - vCPUs (threads)
- Default quota for each cluster and user
- No quota == unlimited.

RBAC In a nutshell

- Assigning individuals access is nice, but gets messy fast.
- Use "role-based access control" (RBAC)
- Clusters should be owned by a group.
- Add people to the groups they should be able to administer.
- Instances should be owned by groups or a single user (don't create a group if only one person will ever be in it)

Ganeti Web Manager Dashboard

Overview

Clusters

Virtual Machines

Create VM

Admin

Orphan VMs

Import VMs

Missing VMs

Users

Groups

Ganeti

Web Manager

You are logged in as **peter**. [Logout](#)

Overview

Cluster Status

Cluster	Version	Memory [GiB]	Disk [GiB]	Nodes	VMs
ganeti-dev	2.2.2	<div><div></div></div> 6.67 / 15.7	<div><div></div></div> 1007 / 1201	3/3	0/9
ganeti-supercell	2.2.2	<div><div></div></div> 243 / 252	<div><div></div></div> 2716 / 2769	2/2	1/3
ganeti	2.2.2	<div><div></div></div> 39.4 / 94.4	<div><div></div></div> 558 / 2696	4/4	18/70
gwm	2.2.2	<div><div></div></div> 1.07 / 1.96	<div><div></div></div> 43.6 / 58.6	1/1	2/5

Resource Usage: peter

Cluster	Your VMs	Disk	RAM	Virtual CPUs
gwm	2 / 5	<div><div></div></div> 13292 / 20000	<div><div></div></div> 2552 / 10000	<div><div></div></div> 12 / 20

Administration

Orphaned VMs [Adopt 82](#)

A Project by the [Oregon State University Open Source Lab](#).

Cluster status

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Cluster: ganeti-dev.osuosl.bak

Overview

Virtual Machines

Nodes

Users

Add Virtual Machine

	Name	Node	OS	RAM	Disk Space	vCPUs
✓	cholula.osuosl.org	gdev3	Manual (image)	512 MiB	20.00 GiB	1
✓	dns-test.osuosl.bak	gdev3	Ubuntu Lucid (image)	512 MiB	10.00 GiB	1
✓	driphop.drupal.org	gdev2	Centos Cf (image)	512 MiB	10.00 GiB	1
✓	helpdesk-dev.osuosl.org	gdev1	Gentoo Hardened Cf (image)	512 MiB	10.00 GiB	1
✓	mulberry.osuosl.bak	gdev3	Centos Cf (image)	512 MiB	5.00 GiB	1
✓	orvsd-dev.orvsd.org	gdev1	Gentoo Hardened Cf (image)	1.00 GiB	15.00 GiB	1
✓	rtvdev.osuosl.bak	gdev2	Gentoo Hardened Cf (image)	768 MiB	10.00 GiB	1
✓	stagingdb.drupal.org	gdev1	Centos Cf (image)	2.00 GiB	80.00 GiB	1
✓	stagingsolr.drupal.org	gdev2	Ubuntu Lucid (image)	2.00 GiB	30.00 GiB	1

1

A Project by the Oregon State University Open Source Lab.

Create an instance

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 **Ganeti**
Web Manager

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New Virtual Machine

Owner

Cluster

Instance Name

Start up after creation ☒

DNS Name Check ☐

Disk Template

Primary Node

Operating System

General Parameters

Virtual CPUs

Memory

Disk Size

Disk Type

NIC Mode

NIC Link

NIC Type

Hypervisor Parameters

Kernel Path

Root Path

Enable Serial Console ☐

Boot Device

CD-ROM Image Path

Disk Template

Disk layout template for the virtual machine on the cluster node.

The available choices are:

- **plain** - Disk devices will be logical volumes (e.g. *LVM*)
- **drbd** - Disk devices will be **DRBD** (version 8.x) on top of LVM volumes
- **file** - Disk devices will be regular files (e.g. *qcow2*)
- **diskless** - This creates a virtual machine with no disks. Its useful for testing only (or other special cases).

If drbd is selected, then a primary and secondary node will need to be chosen unless automatic allocation has been selection. DRBD will allow the virtual machine to use live migration and failover in case one of the nodes goes offline.

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Instance being created

Ganeti

Web Manager

You are logged in as **peter**, [Logout](#)

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gwm : peter.gwm.osuosl.org

↻ Instance Create

```
* creating instance disks...
adding instance peter.gwm.osuosl.org to cluster config
- INFO: Waiting for instance peter.gwm.osuosl.org to sync disks.
- INFO: Instance peter.gwm.osuosl.org's disks are in sync.
* running the instance OS create scripts...
```

Overview

Users

Console

Owner	peter
Status	Stopped
Autostart	
UUID	
Primary node	
Failover node	
Created on	
Last modified	
NIC type	
Disk type	

⌵ Delete

↻ Reinstall

➕ Start

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Connect to console



Behind the scenes

- Permissions are recorded by setting Ganeti tags on clusters and instances.
- Tags are cached in a local database for speed

Format:

```
GANETI_WEB_MANAGER:<permission>:[G|U]:<user_id>
```

Examples:

Admin permission for User with id 2:

```
GANETI_WEB_MANAGER:admin:U:2
```

Start permission for Group with id 4:

```
GANETI_WEB_MANAGER:start:G:4
```

Synnefo

- Open Source project to use Ganeti to build a complete private cloud solution
- Relatively new project with a lot of horsepower behind it.
- Project home: - <http://www.synnefo.org/> - <https://code.grnet.gr/projects/synnefo>
- Documentation: - <http://docs.dev.grnet.gr/synnefo/latest/>
- Public cloud based on it: - <https://www.okeanos.io>

Synnefo Components

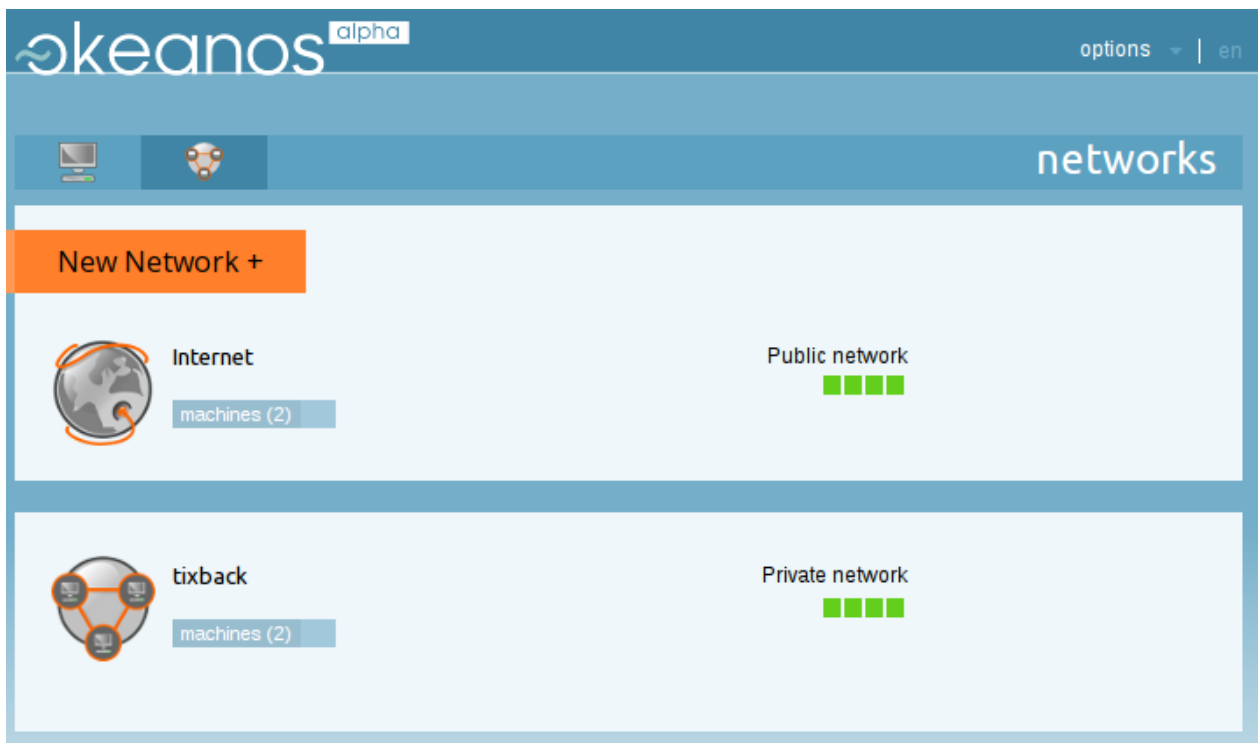
- Identity Management (codename: astakos)
- Object Storage Service (codename: pithos+)
- Compute Service (codename: cyclades)
- Network Service (part of Cyclades)
- Image Registry (codename: plankton)
- Billing Service (codename: aquarium)
- Volume Storage Service (codename: archipelago)

Machines view

The screenshot displays the Okeanos alpha web interface for the 'machines' view. The header includes the 'okeanos alpha' logo and 'options | en'. The navigation bar features icons for a monitor and a cloud. The main content area contains a 'New Machine +' button and view toggles (icon, list, single). Two machine entries are shown:

Machine Name	IPv4	IPv6	Status
tix001	83.212.96.45	...a80c:eaff:fe0d:2ef3	Running
tix002	83.212.96.70	...a80c:eaff:fe1d:b2fd	Running

Networks view



Quick okeanos demo

Time to see it work!

Conclusion

Questions?

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