

Ganeti Web Interfaces

Network Startup Resource Center



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Web interfaces

- The Ganeti RAPI (Remote API) allows other systems to interface into Ganeti
- There are two standalone web front-ends available
 - **Ganeti Web Manager** (OSU OSL: *Oregon State University Open Source Labs*)
 - **Ganeti Manager** (GRNET NOC: *Greek Academic, Research and Education Network NOC*)
- Both are Python/Django applications
 - aka “non-trivial installations”
- Both projects are active as of May 2015

GWM: 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](#).

GWM: Instance details

 **Ganeti**
Web Manager

en ▼ | You are logged in as nsrc, Logout

Overview

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Virtual Machines

Templates

Create VM

Error Log

Search

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Import VMs

Missing VMs

Import Nodes

Missing Nodes

Users

Groups

s0 : host1.ws.nsrc.org

Overview

Users

Log

Console

Owner	gnt1
Created on	12/05/2014
Last modified	15/05/2014
Status	Stopped
Primary node	s2.ws.nsrc.org
Secondary node	
Operating System	Default (<i>debootstrap</i>)
Autostart	✓
VNC	s2.ws.nsrc.org::11009

Start

Reinstall

Edit

Change Owner

Rename

Create Template

Delete

Hardware

VCPUs	2
Memory (Min/Max)	~1 MiB / 4.00 GiB
NIC type	paravirtual

Disks

Disk Template	plain
Disk type	paravirtual

GWM: Instance (VM) create

Overview

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Groups

Ganeti

Web Manager

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

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

Create

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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GWM: Instance (VM) create

The screenshot displays the Ganeti Web Manager interface. At the top, the logo "Ganeti Web Manager" is visible. On the left sidebar, the user is logged in as "lance". The main content area shows the instance "gimager3.osuosl.bak" with a green "Instance Create" status bar. Below this, a log window displays the following text:

```
- INFO: Selected nodes for instance gimager3.osuosl.bak via iallocator hail: gtest2.osuosl.bak, gtest3.osuosl.bak
* creating instance disks...
adding instance gimager3.osuosl.bak to cluster config
- INFO: Waiting for instance gimager3.osuosl.bak to sync disks.
- INFO: - device disk/0: 3.50% done, 2m 24s remaining (estimated)
- INFO: - device disk/0: 48.60% done, 58s remaining (estimated)
- INFO: - device disk/0: 92.20% done, 10s remaining (estimated)
- INFO: - device disk/0: 100.00% done, 0s remaining (estimated)
- INFO: - device disk/0: 100.00% done, 0s remaining (estimated)
- INFO: Instance gimager3.osuosl.bak's disks are in sync.
* running the instance OS create scripts...
```

Below the log window, there are tabs for "Overview", "Users", and "Console". The "Overview" tab is active, showing a table with the following columns: Status, Autostart, UUID, Primary node, Failover node, Created on, Last modified, NIC type, and Disk type. The "Status" column shows "Stopped". To the right of the table, there are "Delete" and "Start" buttons. At the bottom of the interface, it says "A django SITE".

GWM: Cluster instances (VMs)

Overview

Clusters

Virtual Machines

Create VM

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Orphan VMs

Import VMs

Missing VMs

Users

Groups

 **Ganeti**
Web Manager

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


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 (<i>image</i>)		512 MiB		20.00 GiB		1	
✓	dns-test.osuosl.bak		gdev3		Ubuntu Lucid (<i>image</i>)		512 MiB		10.00 GiB		1	
✓	driphop.drupal.org		gdev2		Centos Cf (<i>image</i>)		512 MiB		10.00 GiB		1	
✓	helpdesk-dev.osuosl.org		gdev1		Gentoo Hardened Cf (<i>image</i>)		512 MiB		10.00 GiB		1	
✓	mulberry.osuosl.bak		gdev3		Centos Cf (<i>image</i>)		512 MiB		5.00 GiB		1	
✓	orvsd-dev.orvsd.org		gdev1		Gentoo Hardened Cf (<i>image</i>)		1.00 GiB		15.00 GiB		1	
✓	rtvdev.osuosl.bak		gdev2		Gentoo Hardened Cf (<i>image</i>)		768 MiB		10.00 GiB		1	
✓	stagingdb.drupal.org		gdev1		Centos Cf (<i>image</i>)		2.00 GiB		80.00 GiB		1	
✓	stagingsolr.drupal.org		gdev2		Ubuntu Lucid (<i>image</i>)		2.00 GiB		30.00 GiB		1	

1

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

en ▼ | You are logged in as **tester**. [Logout](#)

Overview

- Clusters
- Virtual Machines
- Create VM

Search

Admin

- Orphan VMs
- Import VMs
- Missing VMs
- Import Nodes
- Missing Nodes
- Users
- Groups

gwm : testvm

Overview

Users

Log

Console

Owner	
Created on	05/07/2011 10:12
Last modified	05/07/2011 10:12
Status	Running
Primary node	gwm1.osuosl.org
Secondary node	
Operating System	Ubuntu Natty (<i>image</i>)
Autostart	✓
VNC	gwm1.osuosl.org::11191

Change Owner

Edit

Rename

Delete

Reinstall

Shutdown

Reboot

Hardware

VCPU's	2
Memory	512 MiB
NIC type	paravirtual

Disks

Disk	Type	Size
disk/0	paravirtual	2.00 GiB

Network Devices

Nic	Mac	IP	Mode	Link
nic/0	aa:00:00:b5:e7:eb	None	bridged	br0

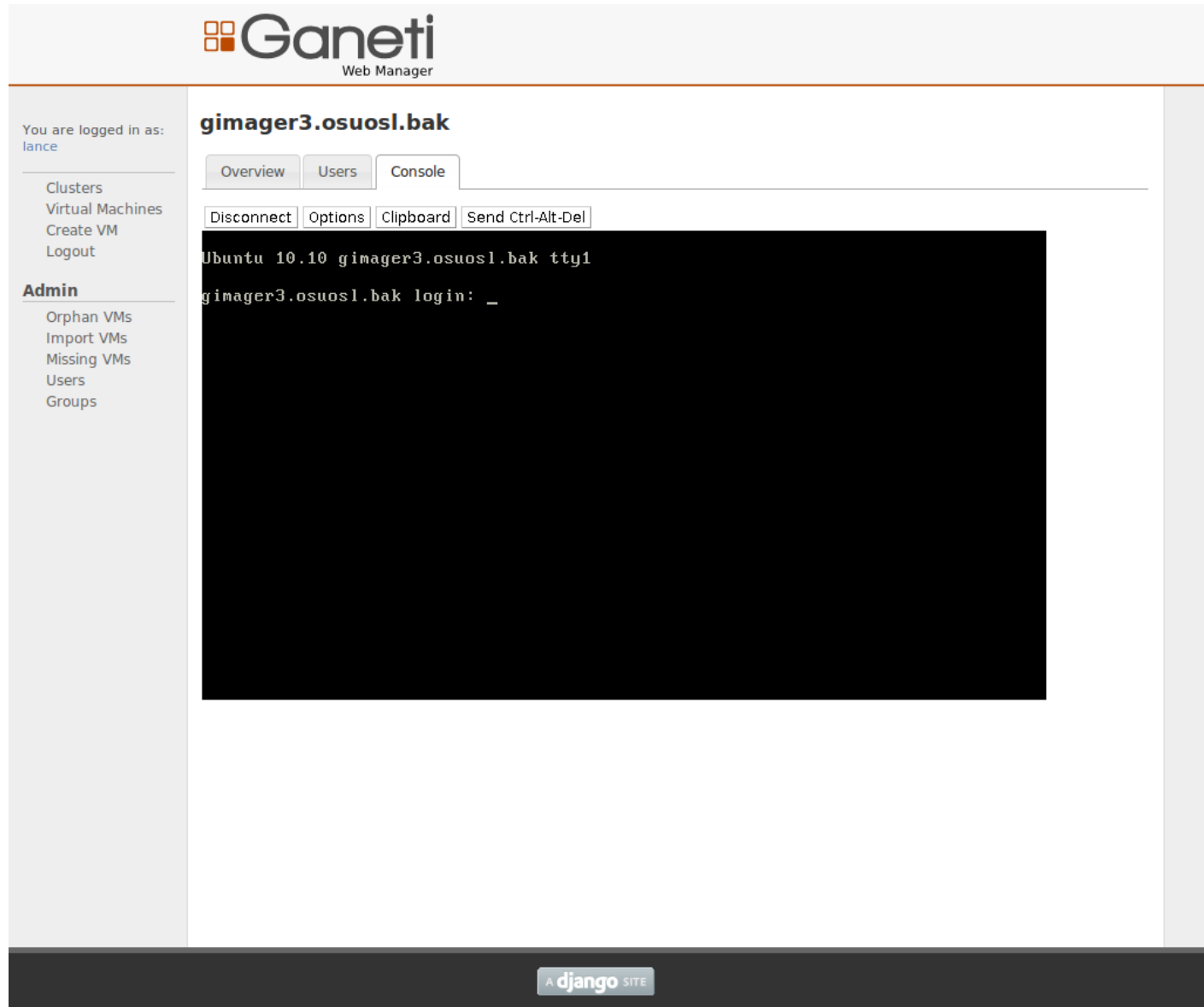
Hypervisor

ACPI	✓
Boot Order	disk
CDROM Image Path	
Disk Cache	default
initrd Path	

GWM: Instance (VM) console

The screenshot displays the Ganeti Web Manager interface. At the top, the Ganeti logo and 'Web Manager' text are visible, along with a login status for 'peter'. The main content area shows the 'ganeti-test : gimager.osuosl.bak' instance. Below the instance name are tabs for 'Overview', 'Users', and 'Console', with the 'Console' tab selected. A row of action buttons includes 'Encrypt', 'Disconnect', 'Shutdown', 'Reboot', and 'Ctrl-Alt-Delete'. The console window itself shows a terminal connection to a QEMU instance, displaying a desktop environment with a purple background, a top bar with 'Applications', 'Places', and 'System' menus, and a bottom bar with the date 'Wed Feb 2, 11:44 PM' and the username 'ubuntu'. On the desktop, there are icons for 'Examples' and 'Install Ubuntu 10.10'. A left sidebar contains navigation links for 'Overview', 'Clusters', 'Virtual Machines', 'Create VM', and an 'Admin' section with links for 'Orphan VMs', 'Import VMs', 'Missing VMs', 'Users', and 'Groups'. The footer of the interface states 'A Project by the Oregon State University Open Source Lab.'

GWM: Instance (VM) console



The screenshot shows the Ganeti Web Manager interface. At the top, the Ganeti logo and "Web Manager" text are visible. On the left, a sidebar contains navigation links: "You are logged in as: lance", "Clusters", "Virtual Machines", "Create VM", "Logout", and an "Admin" section with links for "Orphan VMs", "Import VMs", "Missing VMs", "Users", and "Groups". The main content area is titled "gimager3.osuosl.bak" and has three tabs: "Overview", "Users", and "Console". The "Console" tab is active, showing a terminal window with the text "Ubuntu 10.10 gimager3.osuosl.bak tty1" and "gimager3.osuosl.bak login: _". Above the terminal window are buttons for "Disconnect", "Options", "Clipboard", and "Send Ctrl-Alt-Del". At the bottom of the interface, a dark bar contains the text "A django SITE".

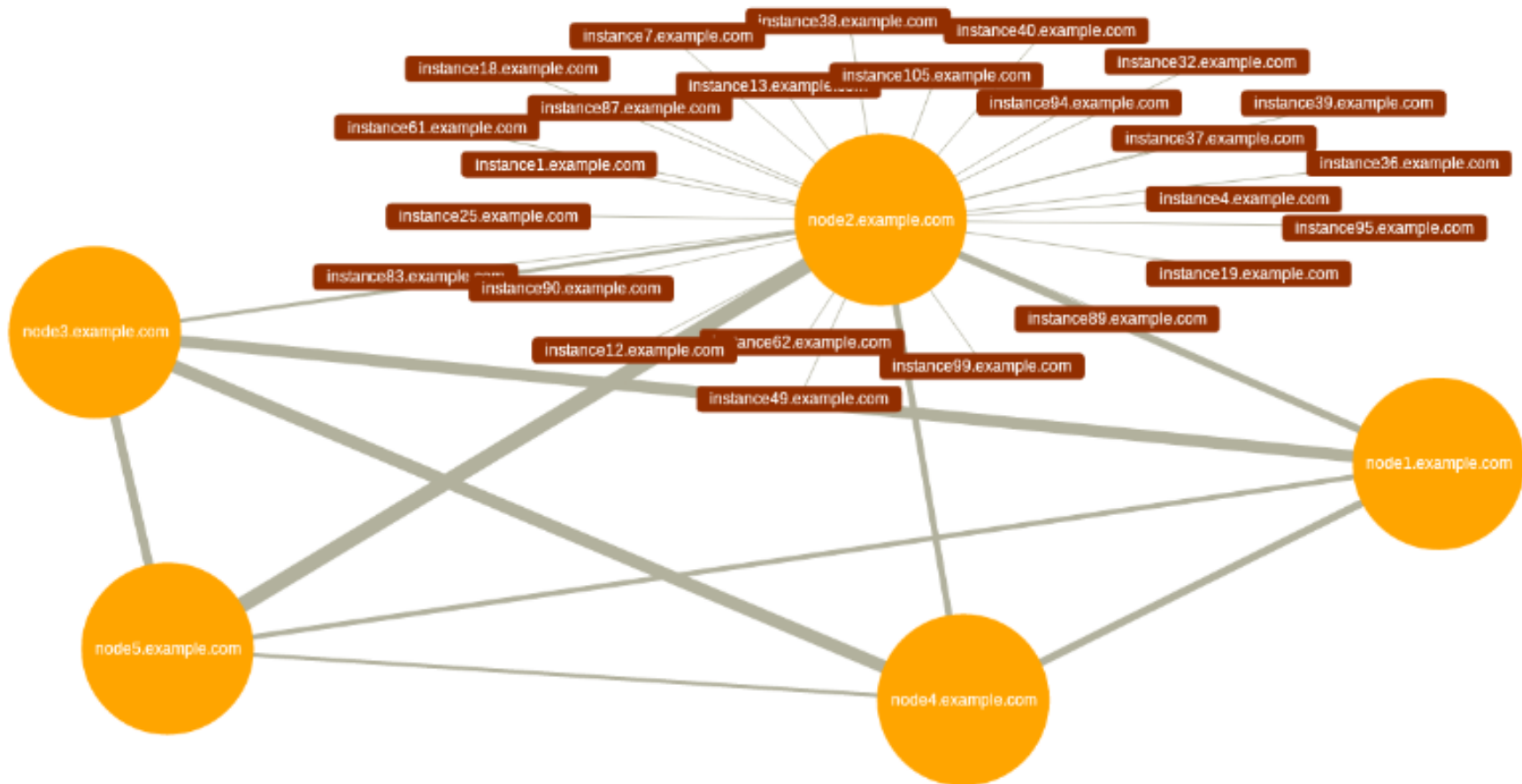
GWM: Instance (VM) error



The screenshot shows the Ganeti Web Manager interface. The browser address bar displays 'node1.adn.com:8000/vms/'. The page header includes the Ganeti logo and 'Web Manager'. A navigation bar at the top right shows 'en' and 'You are logged in as root, Logout'. A sidebar on the left contains links for Overview, Clusters, Virtual Machines, Templates, Create VM, Error Log, Search, and Admin. The main content area is titled 'Virtual Machines' and features a table with columns: Name, Cluster, Owner, Node, OS, RAM, Disk Space, and vCPUs. Three VMs are listed: 'db.adn.com', 'iface.adn.com', and 'testtemp'. The 'testtemp' VM is circled in red, indicating an error. The table also includes a status column with green checkmarks for the first two VMs and a red exclamation mark for 'testtemp'.

Name	Cluster	Owner	Node	OS	RAM	Disk Space	vCPUs
db.adn.com	node1	bbeverage	node1	Default (raw-image)	1.00 GiB	50.00 GiB	1
iface.adn.com	node1	bbeverage	node1	Default (image)	1.00 GiB	14.00 GiB	1
testtemp	node1	root	—	—	1.00 GiB	14.00 GiB	1

GWM: Ganetiviz



Ganeti Web Manager

- Allows setting of most VM parameters
- VM management can be delegated to users
- Fine-grained access control
- Console access via HTML5/Javascript in browser (noVNC, websockets)
- New release April 2015, includes things like *Ganetiviz* (graphical representation of cluster),

Ganeti Web Manager downsides

Maintains a database (SQLite, PostgreSQL, MySQL or Oracle) of instances separate from Ganeti:

- Can get out of sync
- Changes which are made via the CLI may not be visible in the web interface
- Press "Refresh" button to resynchronize
- VMs created outside GWM have to be imported; "orphan VMs" (no owner) have to be "adopted"
- Errors in VM creation can cause **GUI to fail**





















Ganeti Manager

- As used by ViMa (vima.grnet.gr)
- Front-end to GRNET's Virtual Private Servers (VPS) service.
- Provides ticket-like interface where users fill in a form to request a VM
 - manual approval or rejection
- Can report lots of VM statistics
- Installation is simpler than Ganeti Web Manager:
<http://ganetimgr.readthedocs.org/en/latest/install.html>
- Configuration after install is reasonable:
<http://ganetimgr.readthedocs.org/en/latest/admin.html>

Ganeti Manager: New cluster

Django administration

Site administration

Apply		
Instance applications	 Add	 Change
Organizations	 Add	 Change
Auth		
Groups	 Add	 Change
Users	 Add	 Change
Flatpages		
Flat pages	 Add	 Change
Ganeti		
Clusters	 Add	 Change
Instance actions	 Add	 Change
Networks	 Add	 Change
Registration		
Registration profiles	 Add	 Change
Sites		
Sites	 Add	 Change

Recent Actions

My Actions

Ganeti Manager: New cluster

Django administration

Welcome, [\[username\]](#) [Documentation](#) / [Change password](#) / [Log out](#)

[Home](#) > [Ganeti](#) > [Clusters](#) > Add cluster

Add cluster

Hostname:

Slug:

Port:

Description:

Username:

Password:

☐ Enable fast instance creation

Allow fast instance creations on this cluster using the admin interface

Default disk template:

☐ Cluster uses gnt-network

Set to True only if you use gnt-network.

[Save and add another](#)

[Save and continue editing](#)

[Save](#)

Ganeti Manager: New cluster

An explanation about some of the settings:




- `Hostname` is the fully qualified domain name of the cluster
- `Slug` is a friendly name for the cluster
- `Port` is the port the RAPI daemon listens to on the master node. Unless you manually changed it this should be 5080
- `Username/Password` are the credentials created earlier for the cluster
- `Fast instance creation` is an option to submit instance creation requests through the admin interface instead of going through the normal application procedure.
- `Default disk template` is the disk template used by default for the specific cluster
- `Cluster uses gnt-network` is a soon to be deprecated option about network options for new instances. If you use routed networks (though gnt-network) this should be on.

Ganeti Manager: Add network

Django administration Welcome, admin. [Documentation](#) / [Change password](#) / [Log out](#)

[Home](#) > [Ganeti](#) > [Networks](#) > Add network

Add network

Description:	<input type="text"/>
Cluster:	<input type="text" value="-----"/> 
Link:	<input type="text"/>
Mode:	<input type="text" value="-----"/>
<input type="checkbox"/> Cluster default	
Ipv6 prefix:	<input type="text"/>
Groups:	<div> </div> <p>Hold down "Control", or "Command" on a Mac, to select more than one.</p>

Ganeti Manager: Instances
















My instances

Display instances

Search:

Showing 1 to 3 of 3 entries

← Previous 1 Next →

Name ▲	Cluster ◆	Memory ◆	Disk ◆	CPUs ◆	Status ◆	IP ◆	Shortcuts
	 (public3)	512.0 MB	5.0 GB	1	Stopped Locked Shutting down	 2001:0000:0000:0000:0000:0000:0000:0000	Action Pending
	 (public3)	512.0 MB	5.0 GB	1	Running	 2001:0000:0000:0000:0000:0000:0000:0000	  
	 (public1)	2.0 GB	6.8 GB	2	Running	 2001:0000:0000:0000:0000:0000:0000:0000	  

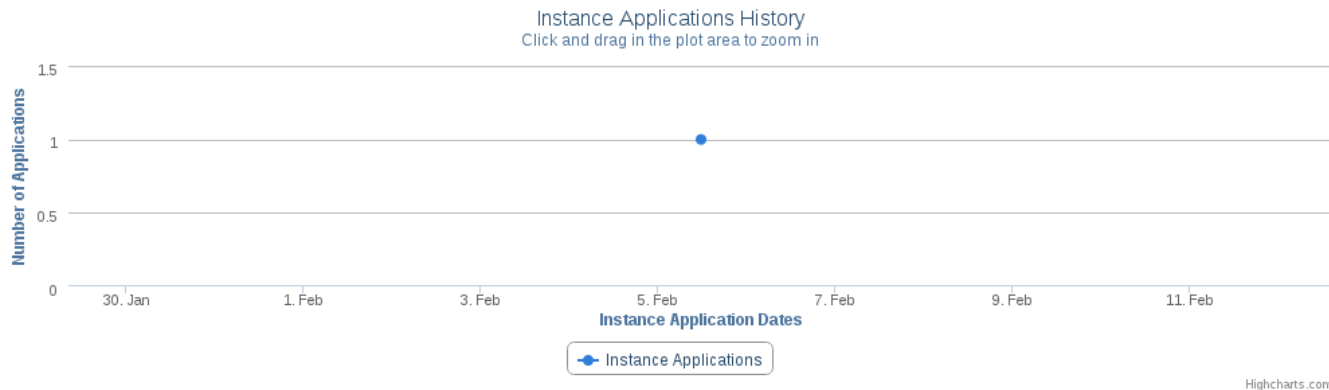
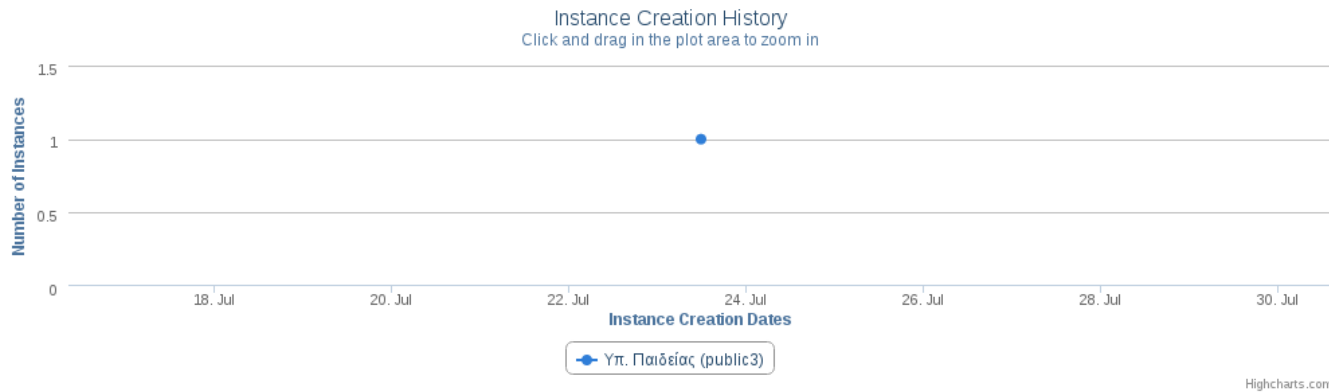
Showing 1 to 3 of 3 entries

← Previous 1 Next →

Ganeti Manager: Instance statistics

[Home](#) / Service Statistics

ViMa Statistics



Your Statistics		
My Instances	Managed by ViMa	1
CPU's	Total	1
Mem (MB)	Total	512
Disk (MB)	Total	2048
CPU's/VM	Avg.	1.00
Mem (MB)/VM	Avg.	512.00
Disk (MB)/VM	Avg.	2048.00

Fill your request

Ganeti Manager: Instance creation

Apply for a new instance

Instance information

Hostname

A fully qualified domain name, e.g. host.domain.com

Memory

Virtual CPUs

Disk size (GB)

Specify a size from 2 to 50 GB

Hosts mail server

☐

Check this option if the virtual machine will be sending e-mail

Operating system

Use/Comments

Give a short description of the intended use of this virtual machine, that justifies the parameter selection above. Feel free to include any additional comments.

Comments

Additional comments you would like the service administrators to see

Administrative contact

If you are applying on behalf of a NOC under GRNET's constituency, please select the appropriate organization. Otherwise, fill in the admin contact information below.

Organization

-OR-

Administrative Contact

Admin contact name

Admin contact email

Admin contact phone

Miscellaneous

We kindly remind you of the following:

- You are solely responsible for the data on your VM. You have to take care of back-ups etc.
- We reserve the right to temporarily suspend the operation of your VM in case it causes malfunctions to our infrastructure

I Agree

☐

I have read the above and accept them, along with the Terms of Service

Apply

Ganeti Manager: Cluster information

Home / Cluster Info

Cluster Info ▼

gnt7 :: Υπ. Παιδείας (public3)			
Hostname			
Disk Templates	drbd plain		
Hypervisor	kvm		
Version	2.9.3		
Instances	all: 105 running: 93 stopped/other: 12		
Ipolicy	Min		Max
	Disk Size	1 GB	Disk Size 1 TB
	CPU	1	CPU 8
	Memory	128 MB	Memory 32 GB
	NIC	1	NIC 8
	Disk	1	Disk 16

Nodegroups

Name	Nodes - #Inst - #CPU - %Mem	Networks	Alloc Policy	VGs
default	<div><div></div>15<div></div>15<div></div>15<div></div>15<div></div>16<div></div>16<div></div>16</div>	<div>L2VPN T vl</div> <div>NOC (gnt7) vl</div> <div>NOC vl1 (gnt7) vl</div> <div></div>	preferred	
scs	<div><div></div>3<div></div>4<div></div>3<div></div>3<div></div>24<div></div>24<div></div>24<div></div>24</div>	<div>L2VPN T vl</div> <div>NOC vlan5 vl</div> <div>NOC vlan5 vl</div> <div></div>	unallocable	gnt_sas gnt_ssd

Networks

Name	Type	Network	Network6	Free
	bridged	-	-	-
public3	routed			

Ganeti Manager: Node status









Nodes

Master 3Regular 45Candidate 6Drained 0Offline 0

Select Clusters

Display 25 nodes

Search:

Name	Nodegroup	Memory	Disk	CPUs	Instance #	Status	Cluster
	default	<div><div>54%</div></div> <div>Free: 21.7 GB Total: 47.3 GB</div>	Shared Storage	16	16	Regular	vima2
	default	<div><div>65%</div></div> <div>Free: 16.4 GB Total: 47.3 GB</div>	Shared Storage	16	16	Regular	vima2
	default	<div><div>68%</div></div> <div>Free: 14.7 GB Total: 47.3 GB</div>	Shared Storage	16	16	Regular	vima2
	default	<div><div>54%</div></div> <div>Free: 21.6 GB Total: 47.3 GB</div>	Shared Storage	16	16	Regular	vima2
	default	<div><div>47%</div></div> <div>Free: 24.8 GB Total: 47.3 GB</div>	Shared Storage	16	16	Regular	vima2
	default	<div><div>60%</div></div> <div>Free: 18.6 GB Total: 47.3 GB</div>	Shared Storage	16	16	Master	vima2
	default	<div><div>69%</div></div> <div>Free: 14.2 GB Total: 47.3 GB</div>	Shared Storage	16	16	Regular	vima2
	default	<div><div>75%</div></div> <div></div>	Shared Storage	16	16	Regular	vima2

Ganeti Manager: Cluster statistics

Cluster

Get Graphs

Date Range

5 October, 2014 - 6 October, 2014

Nodes

All nodes

Graphs for [hawaii.ganeti.gr](#)

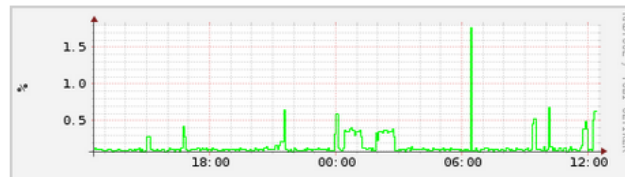
Show

Graphs for [hawaii.ganeti.gr](#)

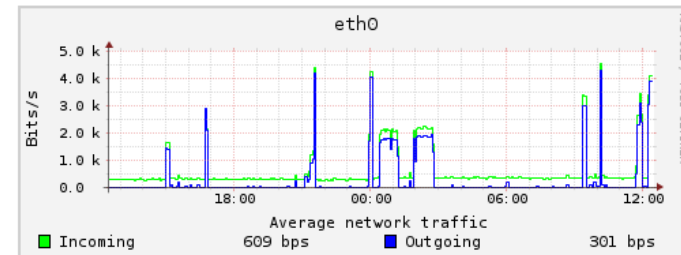
Collapse

[hawaii.ganeti.gr](#)

Cpu



Network



Ganeti Manager: Cluster jobs

[Home](#) / [Jobs](#)

Clusters Jobs

Success 158 **Running 1** **Waiting 0** **Error 0**

Display jobs Search:

Showing 1 to 20 of 159 entries ← Previous 1 2 3 4 5 Next →

Fill your request

Job Id	Cluster	Status	Opcode Id	Start
368711	gnt7	Running	Instance shutdown	2014-09-01 13:41:59
368710	gnt7	Success	Tags set	2014-09-01 13:40:24
985777	vima2	Success	Instance reboot	2014-09-01 13:34:39
368701	gnt7	Success	Tags del	2014-09-01 13:34:01
368700	gnt7	Success	Instance reboot	2014-09-01 13:34:00









Ganeti Manager: Logging

[Home](#) / [Audit Log](#)

Audit Log

Display logs Search:

Showing 1 to 20 of 111 entries ← Previous 1 2 3 4 5 Next →

Job Id	Cluster	Instance	Action	User	Time
364584	gnt7	[REDACTED].grnet.gr	Shutdown	 grnetnoc	2014-08-29 12:17:59
364535	gnt7	[REDACTED].grnet.gr	Start	 grnetnoc	2014-08-29 11:22:01
364533	gnt7	[REDACTED].grnet.gr	Shutdown	 grnetnoc	2014-08-29 11:20:08
364517	gnt7	[REDACTED].grnet.gr	Start	 grnetnoc	2014-08-29 11:07:08
364512	gnt7	[REDACTED].grnet.gr	Shutdown	 grnetnoc	2014-08-29 11:04:00
364507	gnt7	[REDACTED].grnet.gr	Start	 grnetnoc	2014-08-29 10:55:42
364490	gnt7	[REDACTED].grnet.gr	Rename to test-nc-[REDACTED].grnet.gr	 grnetnoc	2014-08-29 10:45:01
364472	gnt7	[REDACTED].grnet.gr	Shutdown	 grnetnoc	2014-08-29 10:24:06

[Fill your request](#)















Ganeti Manager: Pending requests

[Home](#) / Instance Applications

Pending applications

Display applications

Search:

Hostname ▲	User ▼	Memory ▼	vCPUs ▼	Network ▼	Status ▼	Filed ▼
		2048	2	public_98	approved	02/06/2014 14:31
		4096	4		pending	13/05/2014 13:53
		4096	2	public_4	failed	17/12/2012 18:10
		4096	2	public_4	failed	17/12/2012 18:08
		4096	2		pending	17/03/2014 14:22
		2048	1	public_3	failed	06/09/2011 18:02
						

Ganeti Manager: More statistics

ViMa Statistics

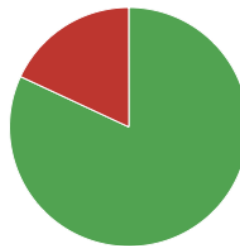
vima1 instances



Running Stopped

Highcharts.com

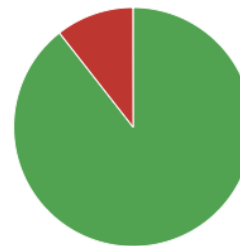
vima2 instances



Running Stopped

Highcharts.com

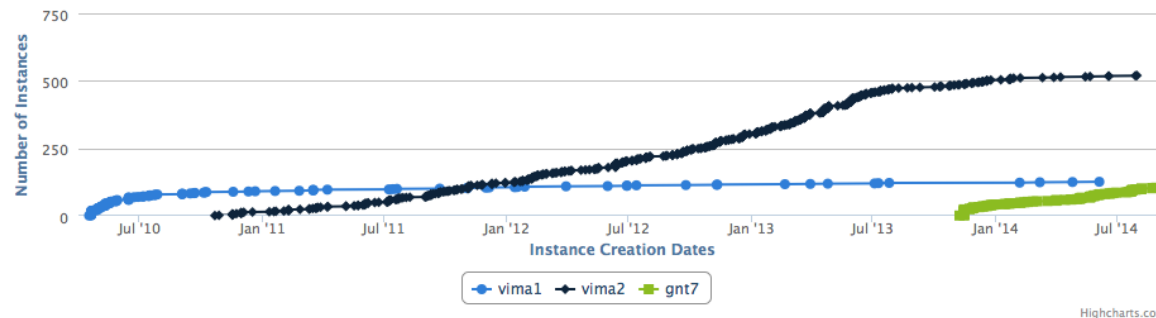
gnt7 instances



Running Stopped

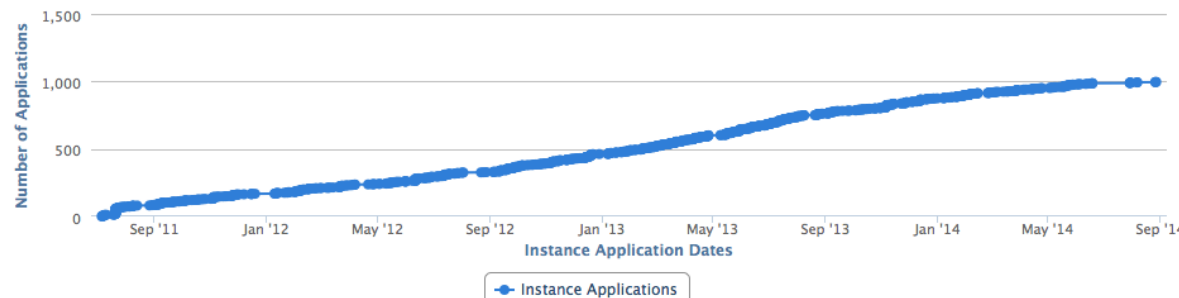
Highcharts.com

Instance Creation History
Drag your finger over the plot to zoom in



Highcharts.com

Instance Applications History
Drag your finger over the plot to zoom in



Ganeti Manager downsides

- Can't do CD-ROM (ISO) installs
 - uses grnet's own version of ganeti-instance-image
 - git dev branch can use snf-image
- Still need to use CLI to change VM settings like memory and vcpus
- Default console access uses Java in browser
 - websockets available but not well documented
- Errors in VM creation are **not reported in GUI**
 - fixed in dev branch

Which to choose?

- If you want an interface for your *administrators* choose Ganeti Web Manager
 - but they should still have some CLI clue
- If you want an interface for your *VM users* choose Ganeti Manager
 - almost like a private cloud "lite"