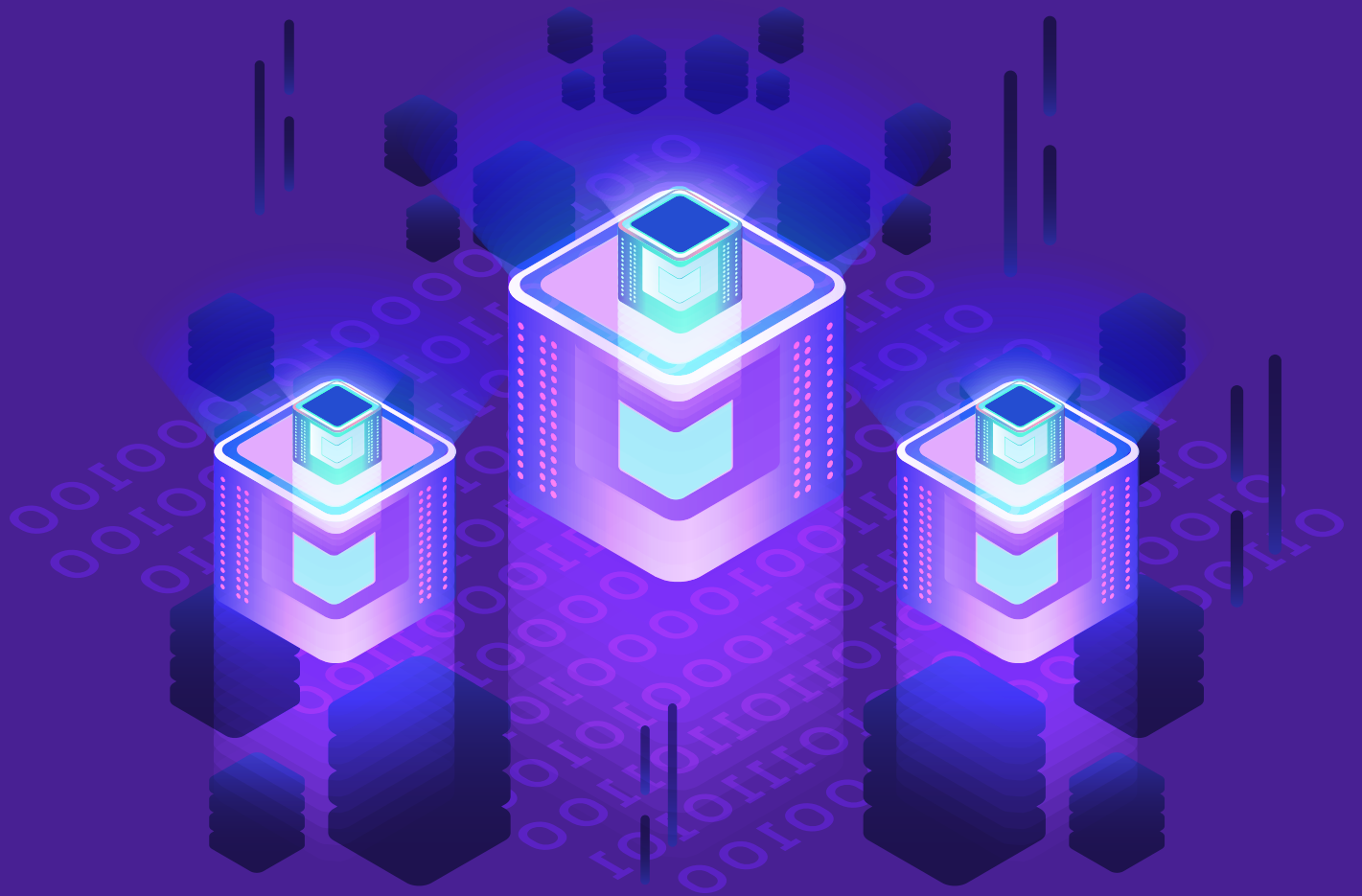
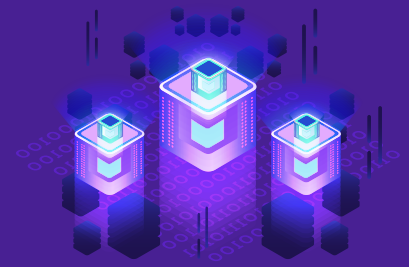


# Ormuko Stack: A Unique, Powerful & Intelligent Edge Cloud Platform



ormuco

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# Summary



Data processing needs have expanded from the core of the infrastructure to the edge of the cloud. In a recent study, Futurum Research reported that 72.7% of enterprises had already implemented an edge computing strategy, or were in the process of doing so.

The edge computing era is forcing businesses to review their IT strategy. They need to offer a flexible and modern infrastructure that can quickly adapt to important changes, such as those generated by the Internet of Things (IoT).

Ormuko Stack responds exactly to that requirement. The solution delivers a rich set of cloud services to the location you need them most – any datacenter, on-premises facility, or at the edge of the network. With the platform, you can truly realize benefits of low network latency, LAN bandwidth for managing massive amounts of data rapidly, and performance of the dedicated hardware.

The platform is delivered fully managed, exactly in the public cloud model. While we deploy it at your locations, we take care of the software upgrades and security patches. We guarantee zero-touch updates and no interruption of your critical services.

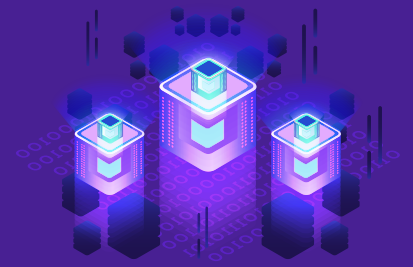
Ormuko Stack supports services and identity federation. This means a user may have access to projects running on multiple deployments, and can integrate services running in those projects.

The platform fits for any business infrastructure and scales to your company needs.

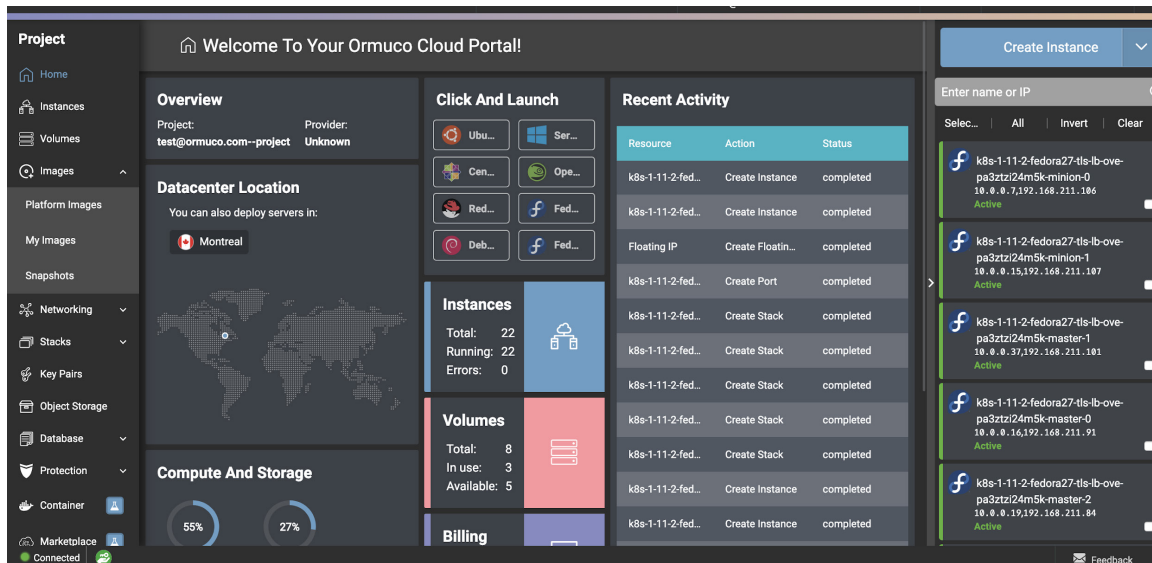
## Did You Know?

**We have built our solution using the most reliable and documented open source technologies.**

# Features



Let's look into the Ormuco Stack features.



*Ormucos  
Stack  
Dashboard*

## Virtual Machines

Run any virtual machine (VM) in your edge cloud. A set of regularly updated system images for popular operating systems is provided with the platform. As a customer, you also have the choice to upload and use your own images.

Moreover, you are free to play with the available set of flavors defining VM size and other characteristics and customize it to your specific needs.

## High Availability

When required, you can also tune your VMs for high availability. Take advantage of automated restarting and failover settings in case hardware components fail.

## GPU Support

Some workloads, such as Machine Learning (ML) require direct access to Graphic Processing Unit (GPU) for the best performance. For such workloads, GPU-enabled instances are available in the Ormuco Stack platform.



## Create new Instance

✓ Name

Ubuntu

X

### Disk Configuration:



Boot from Volume

### Image and performance:

✓ Select an image



Ubuntu 18.04 amd64

Change

✓ Select flavor



1 vCPUs 0.5GB RAM 0.01\$/hr

Change

✓ RAM Quota

RAM: 33792 + 512MB /  
51200MB

✓ CPUs Quota

CPU: 5 + 1 / 20

### Network and Authorization settings:

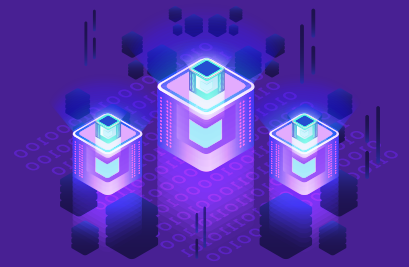
VM  
Creation

## To Learn More

Documentation of the VM management API: [click here](#)

High Availability API documentation: [click here](#)

# Bare Metal Deployments



Not every workload is virtualization friendly. For those applications that require full power of a dedicated server, Ormuco Stack supports bare metal deployments. Delivered via API calls, similar to virtual machines, the bare metal deployments can meet requirements of the most demanding applications.

Through this feature, you are equipped to deploy edge servers or edge gateways directly within the platform.

## To Learn More

**Bare Metal service API documentation: [click here](#)**

# Network



You have full flexibility to define your own networking configuration for every project. When external connectivity is required, a virtual gateway and public IPs are also available. In addition, it is also possible to directly connect those virtual networks to your physical networks.

Other commonly used components – such as routers, firewalls, load balancers or VPN gateways - are also available as a part of the virtual networking service.

Subnets for: default-network

Name	IP version	CIDR	Gateway	DHCP
				<input checked="" type="checkbox"/>

DNS Options ▾  
Ex: X.X.X.X, Y.Y.Y.Y, etc.

8.8.8.8 8.8.4.4

Add

Name	IP version	CIDR	Gateway	DHCP	DNS	Actions
default-subnet	4	192.168.3.0/24	192.168.3.1	true	["8.8.8.8","8.8.4.4"]	

**Router Configuration  
in Networking**

Router Management

default-router

Overview Gateway Interfaces Routes

Add interface IP Address (optional) Action

None Add

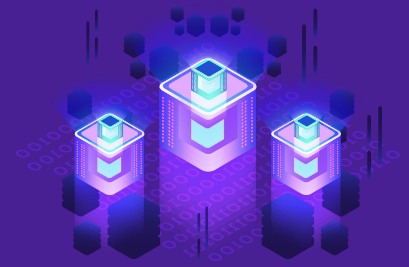
Fixed IP's	Status	Admin State	Type	Actions
192.168.3.1	Active	up	Router Interface_distributed	
192.168.3.28	Active	up	Router Centralized_snat	

**Virtual Network  
Management**

## To Learn More

Network Management API documentation: [click here](#)

# Block Storage



Ormuko Stack makes it easy to define, manage and connect persistent volumes to your VMs to meet any data needs. Depending on the hardware configuration, you can implement multiple storage tiers varying in capacity and performance.

Moreover, the storage is protected from hardware failures and data loss by automatic background data replication.

## Create new volume

*Store all the data you need*

✓ Name

SQL-Datavol

X

✓ Volume Origin

☒ New ☐ From snapshot

✓ Type

storage-category-SSD based ▾

✓ Size (GB)

10

↕

\$

*Choose the volume type* *Size should be 1 or bigger*

✓ Volumes Quota

Storage: 1 + 1 / 10

## Volume Creation

## To Learn More

[Volume management API documentation: click here](#)



# Object Storage



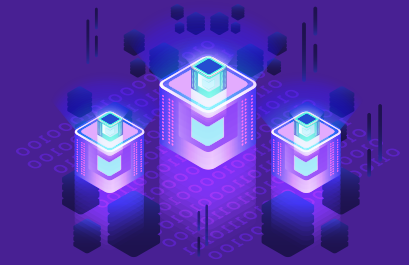
Ormuko Stack enables you to create storage containers for your cloud applications. This fast, reliable and scalable solution delivers object storage via API and is compatible with popular AWS S3 storage API.

Your applications and customers can use the data stored in the object storage directly via API and web browsers. There is no need to build and maintain web servers for this purpose.

## To Learn More

**Object storage API documentation: [click here](#)**

# Shared File System Service



Many users and applications require access to file servers or NAS.

Ormuko Stack allows you to create such service easily without any server or software components configuration. Just define share name, protocol (such as NFS, CIFS or other), underlying storage type, select size and network to connect the shared driveto.

A fully operational service will be created in a moment.

## To Learn More

**Shared FS API documentation: [click here](#)**

# Databases



Quickly deploy instances of popular database engines using included DataBase as a Service for your development and production needs. MySQL, PostgreSQL, Redis, MongoDB and many other types can be deployed in one click or a single API call.

## Database Creation

### Create Datastore Instance

✓ Datastore Instance Name

db-1

✕

✓ Datastore

mysql


▼

✓ Version

5.7

▼


✓ Select flavor


 1 vCPUs 1GB RAM0.01\$/hr

Change

✓ Size (GB)

10








Size should be 1 or bigger


✓ Select your networks


Min 1 - Max 4









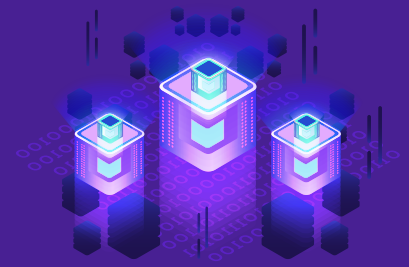


Show only connected networks

## To Learn More

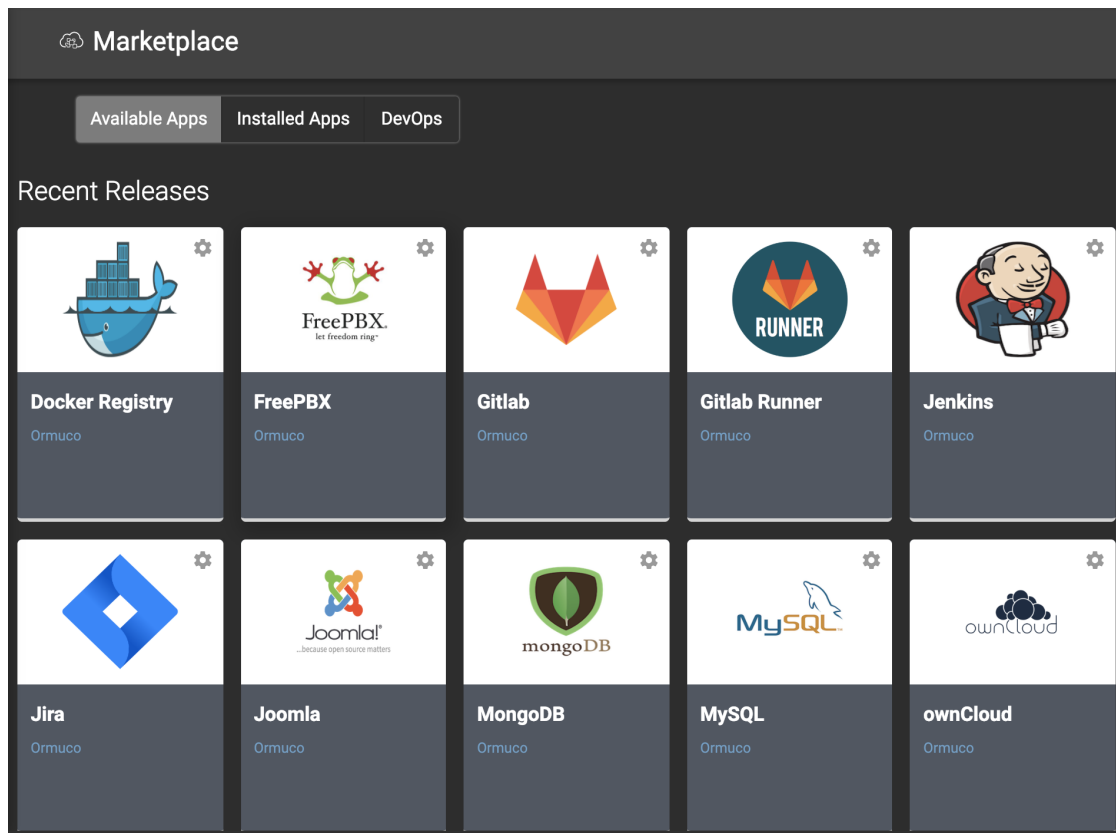
Database as a service API documentation: [click here](#)

# Marketplace



Your users may appreciate power and convenience of launching a fully operational applications in just one click of UI.

The Ormuco Stack platform allows you to develop, test and run such applications in the marketplace catalog, using any combinations of the infrastructure services provided, and custom code to deploy and manage the applications



## Marketplace Applications

## To Learn More

[Orchestration API documentation: click here](#)



## Publisher Portal

The publisher portal allows you to build and publish applications for the marketplace, as well as profiles for Desktop as a Service.

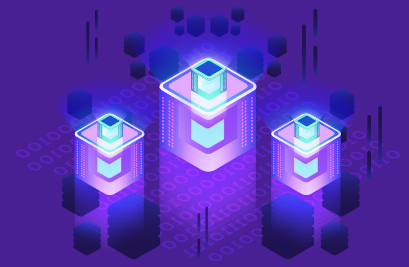
## Orchestration

Tired of managing your infrastructure manually? Feel like you could better spend your time?

Ormuko platform includes orchestration service that allows you to treat and manage your infrastructure as a code. Simply describe what your infrastructure should look like, and the platform will automatically figure out how to deploy it.

Integration with real time events and metrics is also available to react to a changing infrastructure needs – for example, deploy new workers when load increases.

# Backup and Data Recovery



Backups and data recovery are essential to ensure business continuity. The platform provides you with necessary services to design, implement, and manage the measures required to ensure your data is safe.

## To Learn More

**Backup and recovery API documentation:**

- **Data Protection:** [click here](#)
- **APIs:** [click here](#)



# Kubernetes as a Service

Application orchestration platforms such as Kubernetes offers a revolutionary way to deploy, run, manage and scale your applications. Managing a Kubernetes cluster however can be a challenge on its own.

Ormuko platform can make this easier for you, providing Kubernetes as a Service, out of the box. Just define your cluster parameters and click OK. In a minute or two. the cluster will be ready to run your applications.

## Kubernetes Cluster Creation

### Create an Kubernetes Stack

✓ Cluster Name

K8S-1



### Image and performance:

✓ Select an image



fedora-atomic 27 x86\_64

Change

✓ Master



2 vCPUs 4GB RAM 0.04\$/hr

Change

✓ Minion



2 vCPUs 4GB RAM 0.04\$/hr

Change

✓ RAM Quota

RAM: 15872MB / 51200MB

✓ CPUs Quota

CPU: 13 / 20

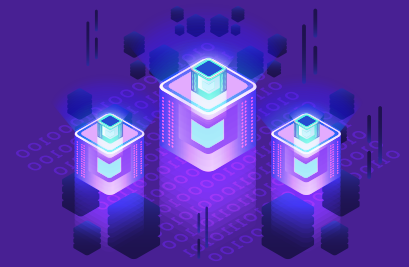
### Network and Authorization settings:

✓ Select your networks

Min 0 - Max 1



Show only connected  
networks



Cluster Details

✕

# k8s-1.11.2-fedora27-tls-lb-overlay-calico-cinder-002

API Address: <https://192.168.211.78:6443>

Details

Resources

## General Info

Cluster name:  
**k8s-1.11.2-fedora27-tls-lb-overlay-calico-cinder-002**

Cluster Status:  
**Stack Creation Completed**

Cluster UUID:  
**55320e3a-2156-4344-a728-c7a36fe2c6e6**

Cluster Key pair:  
**manny**

Cluster create timeout:  
**60 minutes**

## Time And Billing

Billing time:  
**0 days, 0 hours 0 minutes**

Instance cost:  
**0\$/ hour**

\*Showing data from until today

Current Balance:  
**\$0.00**

## Network Info

Network Driver:	HTTP Proxy:	HTTPS Proxy:
<b>calico</b>	<b>N/A</b>	<b>N/A</b>
External Network name:	Fixed Network:	Fixed Subnet:
<b>ext-net</b>	<b>N/A</b>	<b>N/A</b>
DNS:		
<b>8.8.8.8</b>		

## Kubernetes Cluster Details

## To Learn More

API documentation: [click here](#)



# Containers



Sometimes, deploying Kubernetes or even a VM to run just a single container may seem like too much of an overhead. This is not a problem with Ormuco Stack. You can simply run a Docker container in a same way as you would run a VM, just faster and easier.

You will not need to separately manage infrastructure resources for that container to run on. It is all managed by the platform.

### Create A Docker Container

☒ Container Name

wp-1

☒ Image and performance:

☒ Image Origin

Docker Hub

☒ Image

wordpress

☒ Flavor

1 vCPUs 0.5GB RAM0.01\$/hr

Change

☒ RAM Quota

RAM: 15872 + 512MB / 51200MB

☒ CPUs Quota

CPU: 13 + 1 / 20

### Network and Authorization settings:

☒ Select your networks

Min 0 - Max 1

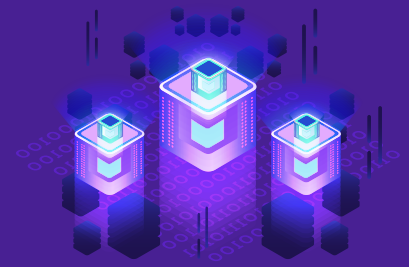
☐ Show only connected networks

## Launching Individual Docker Container

## To Learn More

API documentation: [click here](#)

# Secret Management



Storing your password insecurely or reusing same password for different instances puts your infrastructure's security at high risk.

The Ormuco Stack platform helps you eliminate this vulnerability by generating strong secrets and securely storing them in encrypted format, not available to any unauthorized or malicious user.

Secrets container Managment

Instance credentials

✓ Name

✓ Value

✓ Expiration

mm/dd/yyyy

Add secret

Cancel

Name	Value	Expiration	Actions
test-mariana	.....		<div><div></div><div></div><div></div></div>
centos@291c41d3-8326-4b16-b92a-ce56eba5e96f	.....		<div><div></div><div></div><div></div></div>
centos@b5ecfb21-4ee6-41d6-a373-56236d64bb46	.....		<div><div></div><div></div><div></div></div>

## Secret Management - Instance Credentials

## To Learn More

API documentation: [click here](#)

# Big Data



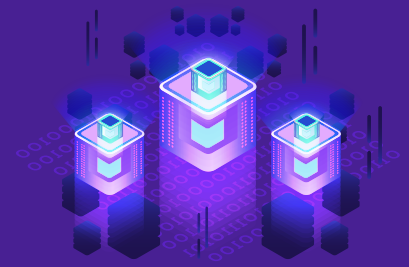
Do you need to process massive amounts of data quickly?

You can rely on our Big Data services with our wide choice of frameworks, such as Hadoop, Spark, Storm. You can pick the cluster size just right for your needs to ensure the processing finishes in time. The created cluster can either stay indefinitely, or just be created on demand to process specific task, and automatically removed after to free up the resources used.

## To Learn More

**API documentation: [click here](#)**

# DNS Service



Cloud services commonly have DNS records associated with them. There is no need to handle that separately. The Ormuco Stack platform includes a DNS management service.

Records for:

A

CNAME

MX

TXT

SRV

NS

PTR

SPF

SSHFP

SOA

Name

Time to live

Description

3600

Add

Records

Remove Record

IP Address

X

Add Row

Name	Description	Time to live	Records	Actions
ap1.edge.mycomp.			1.2.3.4	<div>Update</div> <div></div>

## Serverless Infrastructure

Run your code without provisioning or managing servers. Most importantly, you do not need to plan or scale your infrastructure.

As a developer, all you need to do is to deliver a great experience to a single user (plus making sure your code is written for horizontal scaling). After that, simply deploy your code and the platform will automatically make decisions, whether to serve one or a hundred thousand users.

### To Learn More

**DNS management service documentation: [click here](#)**



## Workflow Service

Business processes frequently include a lot of interconnections, with complex dependencies and data exchanges.

The workflow service enables you to describe such processes. It is all orchestrated through a service coordinator that also takes care of scheduling, event handling, parallel execution, data exchange between components and other similar tasks.

## Platform Automation through Artificial Intelligence

A well-designed platform requires as little attention as possible, and the Ormuco Stack platform truly excels there.

The platform proactively monitors its own health. It will detect any potential failure and fix the system before it amplifies or even occurs.

Through a flexible and scalable resource optimization service, the platform will automatically identify a need for optimization – such as unbalanced CPU consumption across physical servers. It will consequently perform necessary actions to enhance the setup and deliver best possible performance.

For the user, this means they get the “best bang for the buck” – better performance and/or lower cost of management, infrastructure, power, cooling and other.

Tickets list

Opened Closed All

1: Nova - Compute ironic Node record not...  
Low  
Occured 7 Times in a minute  
Solved since 8 hours ago

Ticket 2: nova-compute-ironic - No compute node record for  
2: Nova - Compute ironic Node record not...  
Low  
Occured 3 Times in a few seconds  
Solved since 8 hours ago

Ticket 3: designate-central - Exception during message handling: DBError:  
3: Designate Badly Formed Hexadecimal ...  
Medium  
Occured 7 Times in 26 minutes  
Solved since 7 hours ago

Ticket 4: Nova - Compute ironic Node record not found in host  
2: Nova - Compute ironic Node record not...

Ticket 3

designate-central - Exception during message handling: DBError:

Solved since 7 hours ago  
Created: Thursday, Jan 17th 2019, 11:32 am  
Environment: uat  
State: RESOLVED  
Check history

Incident Insights | 3

3: Designate Badly Formed Hexadecimal UUID with Medium Severity Occured 7 Times in 26 minutes  
Label this incident | Change Severity | Mark as Healthy

Affected Hosts:  
controller002

Loggers:  
openstack.designate

Logs Solutions (0) Actions Alerts

Incident Fingerprint and Logs

**Ormuco platform uses AI to detect problems, determine their severity and find appropriate solutions - proactively healing the platform**

## Incident Refinement

Log types samples found in this Incident

5

/designate-central.log

Thursday, Jan 17th 2019, 11:28 am

uat controller002 openstack.designate oslo\_db.sqlalchemy.exc\_filters

Show full log

DB exception wrapped.: ValueError: badly formed hexadecimal UUID string 2019-01-17 19:28:19.663 22 ERROR oslo\_db.sqlalchemy.exc\_filters Trace...

10

/designate-central.log

Thursday, Jan 17th 2019, 11:28 am

uat controller002 openstack.designate oslo\_messaging.rpc.server

Show full log

Exception during message handling: DBError: (exceptions.ValueError) badly formed hexadecimal UUID string [SQL: u'SELECT records.id, records.v...

1

/nova-compute-ironic.log

Thursday, Jan 17th 2019, 11:42 am

uat controller003 openstack.nova nova.compute.manager

Show full log

No compute node record for host controller003-ironic: ComputeHostNotFound\_Remote: Compute host controller003-ironic could not be found.

*Related log entries are automatically grouped by the incident*

Tickets list

Opened Closed All

☑ Solved since 7 hours ago

Ticket 17: Nova Ironic problem 3

13: Nova - Compute Ironic Node record n...

Unknown

🕒 Occurred 1 Time in a few seconds

☑ Solved since 7 hours ago

Ticket 19: libvirt - qemuDomainDiskByName:8268 : invalid argument: No

14: Rabbit is in troubles

### Ticket 19

libvirt - qemuDomainDiskByName:8268 : invalid argument: No

☑ Solved since 6 hours ago

Created: Thursday, Jan 17th 2019, 12:26 pm

Enviroment: uat

State: RESOLVED

[Check history](#)

### Incident Insights | 14

14: Rabbit is in troubles with Medium Severity Occurred 1 Time in a few seconds

[Label this incident](#) | [Change Severity](#) | [Mark as Healthy](#)

State history

×

DISCOVERED

Thursday, Jan 17th 2019, 12:26 pm

RESOLVED

Thursday, Jan 17th 2019, 1:11 pm

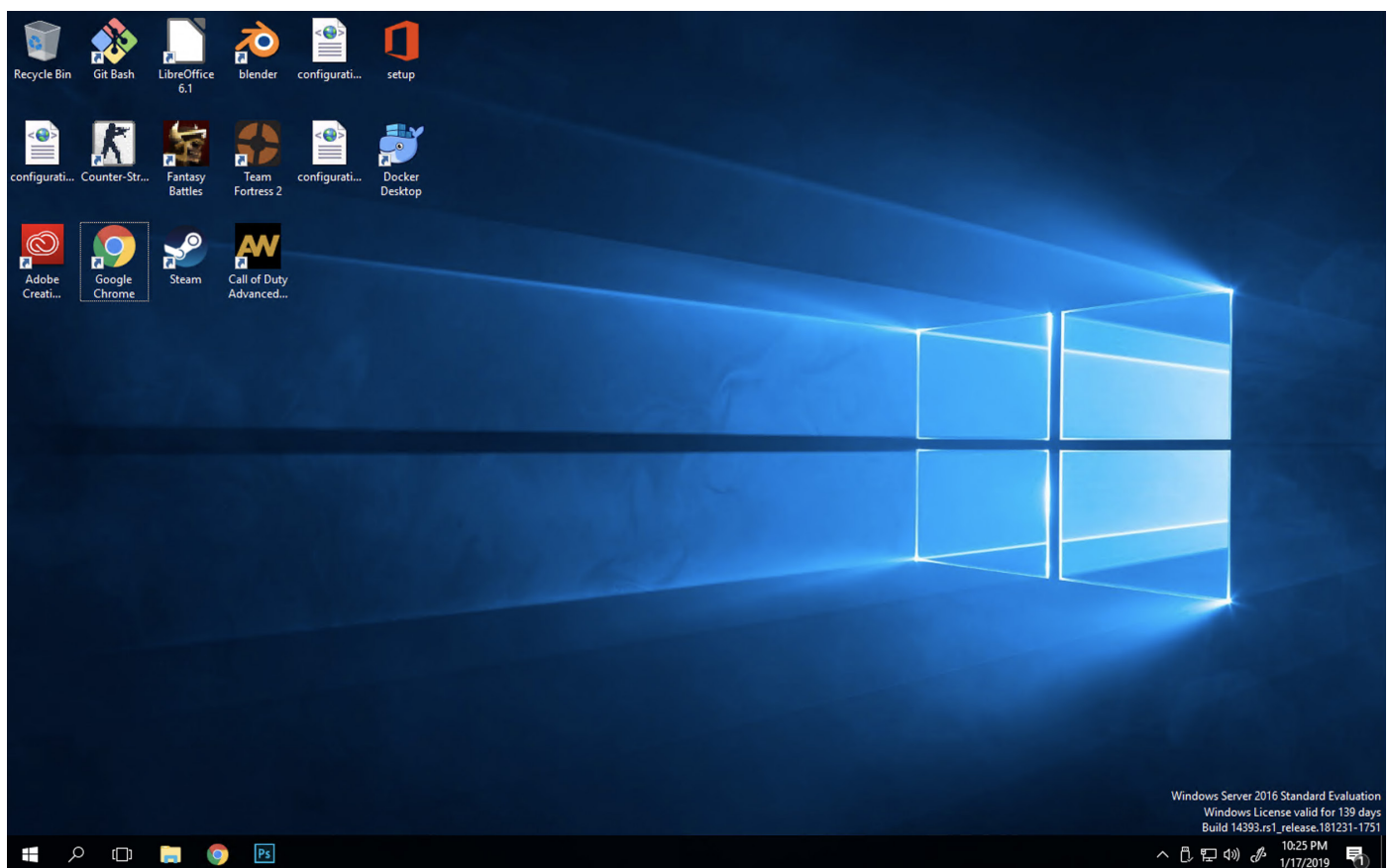
*Incidents are tracked from discovery to resolution*



## Desktop as a Service

Discover true benefits of secure, managed cloud desktops service.

With the service, you can improve security of your user data, centralize and simplify desktop management and helpdesk operations. Your users will get fast and high-performance desktops, available on any device and any location.






**Desktop as a Service**  
**Available Via a Thin Client**

## About Ormuco Inc.

Founded in 2008, Ormuco's mission is to be a leader in the deployment of edge computing as the preferred solution for data processing.



## Ready to Get Started? Ask for a Demo

-  [go.ormuco.com/demo](https://go.ormuco.com/demo)
-  [sales@ormuco.com](mailto:sales@ormuco.com)
-  1 (514) 400-7440



Cloud28<sup>+</sup>