



# Ezilla - Evolved

## Marketplace

## Drag & Drop

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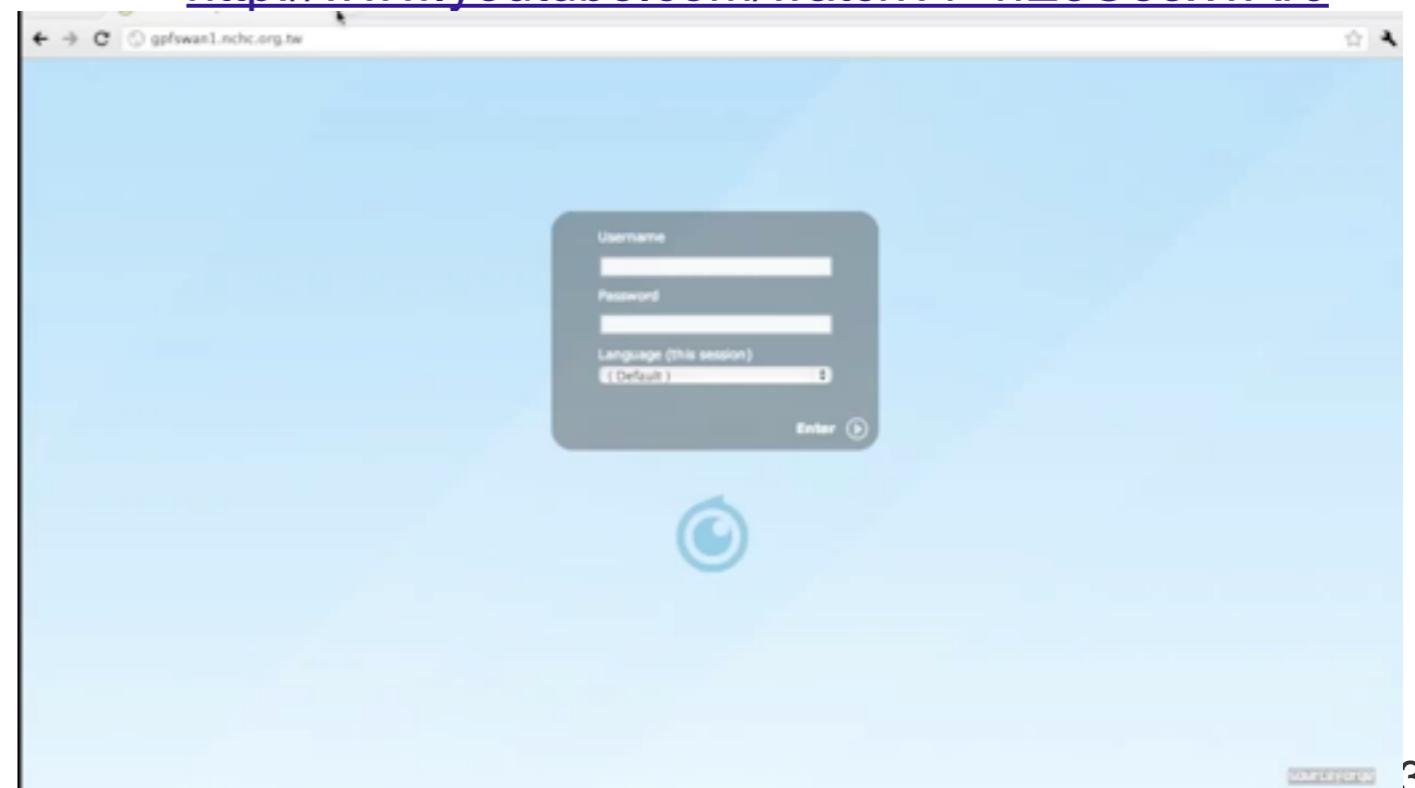
# Where were we in Melbourne?

- ◆ Melbourne, the PRAGMA 22
- ◆ The demo looks like this ...
  - One click to install Ezilla
- ◆ What was missing in Ezilla
  - Interface for system admin.
    - Command mode only
  - No chance for VMM upgrade
    - Not modularized
    - ...
- ◆ “Save Image”... 😞
  - PRAGMA Sapporo

[http://www.youtube.com/watch?v=6hsM\\_t-ooRY](http://www.youtube.com/watch?v=6hsM_t-ooRY)



<http://www.youtube.com/watch?v=hE3Ue3xYAr0>



# New Ezilla



# New Ezilla



- ◆ New look
  - GUI + Logo redesigned
- ◆ Complying with OCCI (Open Cloud Computing Interface)
- ◆ New Features, to name a few
  - Virtual Cluster
  - Drag & Drop
    - “The Evolution of Ezilla - Using Drag and Drop to Make Your Way into the Cloud”
  - SPICE - for video streaming
- ◆ Tools & GUI for system admin.
- ◆ Concept of Marketplace
  - Application repository
  - Similar concept to Apple APP Store, Android Marketplace
  - Scientific application First : Scientific Cloud Marketplace
  - Not limited to the HPC/HEC of Scientific Applications

# Ezilla -- the ad.

## ◆ Design philosophy

- Building private cloud with ease
- Providing friendly UI
- Providing easier way to customize & configure cloud to meet the user's demand

## ◆ Technologies adopted

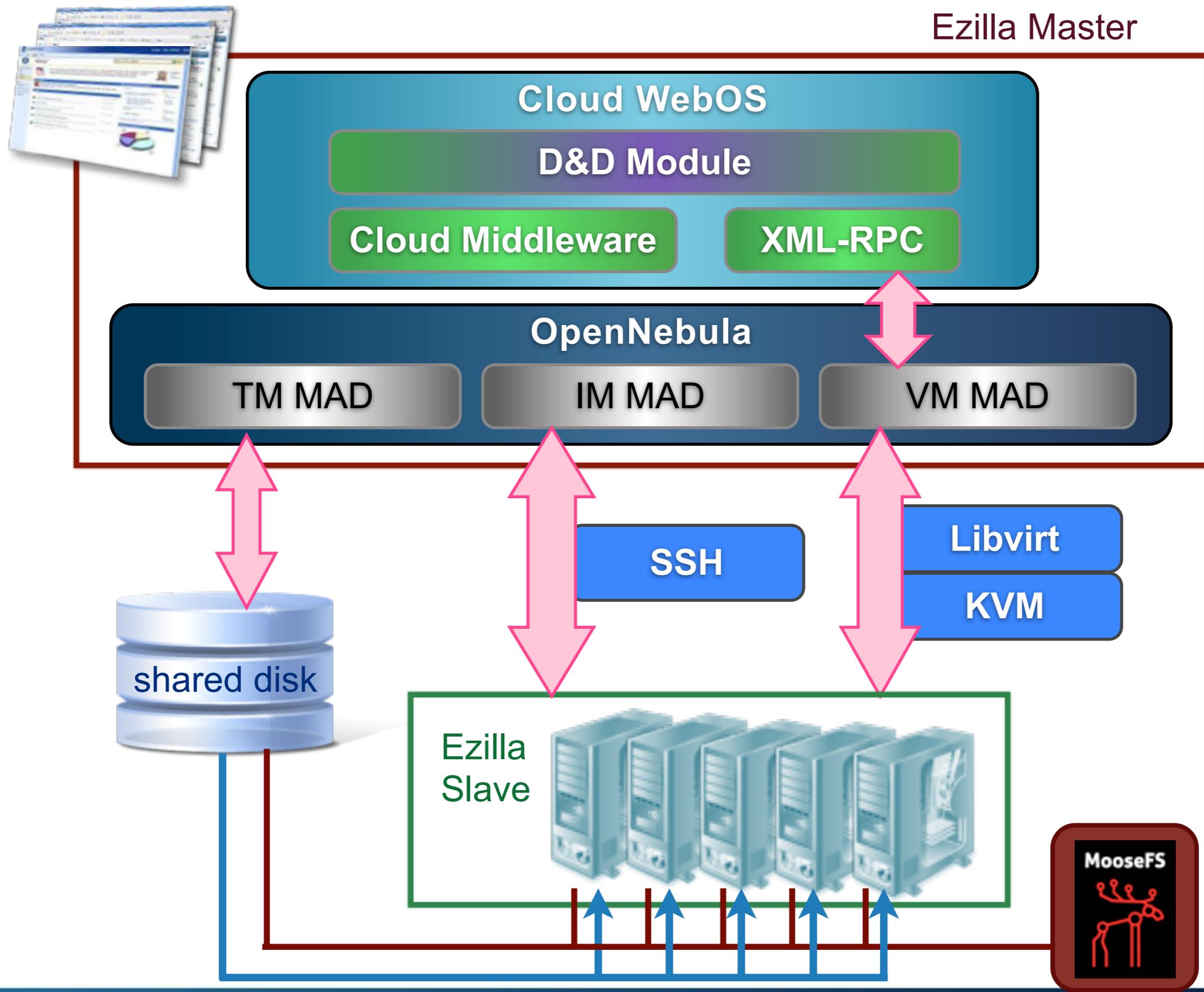
- DRBL (Diskless Remote Boot in Linux)
- WebOS
- Cloud Middleware
- MooseFS (Distributed File System)

# Ezilla -- the ad.

- ◆ **Design philosophy** ⇒ **Build around users**
  - Building private cloud with ease
  - Providing friendly UI
  - Providing easier way to customize & configure cloud to meet the user's demand
- ◆ **Technologies adopted**
  - DRBL (Diskless Remote Boot in Linux)
  - WebOS
  - Cloud Middleware
  - MooseFS (Distributed File System)



# Ezilla -- the ad.



# Ezilla -- the ad.

## ◆New Look

NCHC Ezilla Cloud Service | vm227-capri.nchc.org.tw:9869 | Documentation | Support | Community | 台灣正體 | English | Welcome oneadmin | Sign out

**Ezilla**

- Dashboard
- Configuration
- System
- Users
- Groups
- ACLs
- Virtual Resources
- Virtual Machines
- Templates
- Images
- Infrastructure
- Clusters
- Hosts
- Datastores
- Virtual Networks
- Marketplace

**Hosts**

Total Hosts: 1 State: ON - 1 (100%)

**Virtual Machines**

Total VMs: 37 State: ACTIVE - 37 (100%)

**Global CPU Usage**

Bandwidth - Upload: 17.7MB/s Bandwidth - Download: 986.4MB/s

Global transfer rates: NET\_RX - 1.8G NET\_TX - 32.3M

Used vs. Max CPU: max\_cpu used\_cpu cpu\_usage

Used vs. Max Memory: max\_mem used\_mem mem\_usage

**System Information**

Total Users: 12 Total Groups: 2

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**Virtual Machines**

All	ID	Owner	Group	Name	Status	Hostname	IPs	VNC Access	Remote Access
1	oneadmin	oneadmin	Ubuntu	Ubuntu	ON	localhost	10.0.2.1		
26	chwhs	users	one-26	one-26	ON	localhost	10.0.2.5		
28	vun	users	test	test	ON	localhost	10.0.2.6		

**VM information**

Virtual Machine information - Ubuntu

ID	1
Name	Ubuntu
Owner	oneadmin
Group	oneadmin
State	ACTIVE
LCM State	RUNNING
Hostname	localhost
Start time	16:31:51 07/10/2012
Deploy ID	one-1

**Monitoring information**

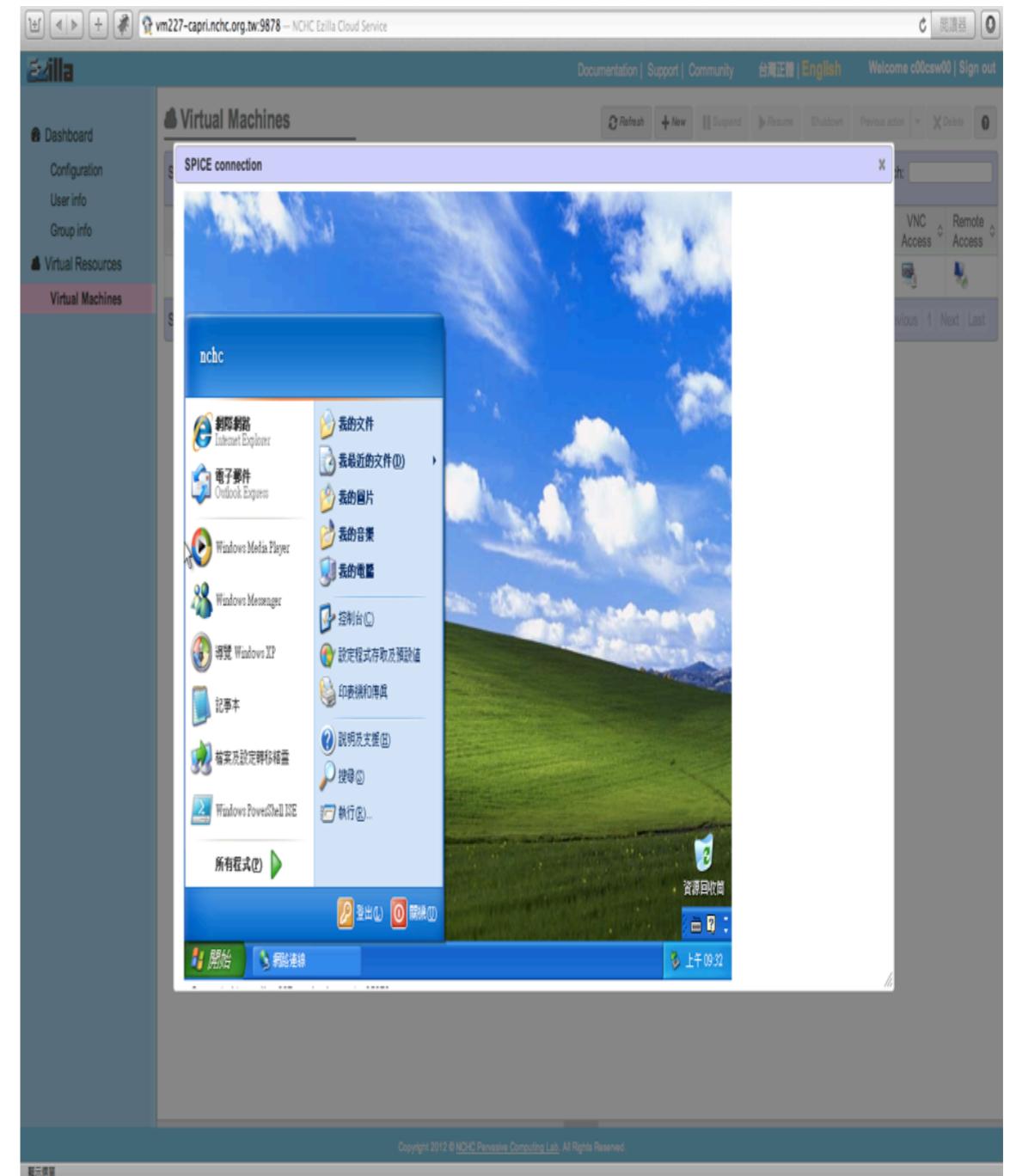
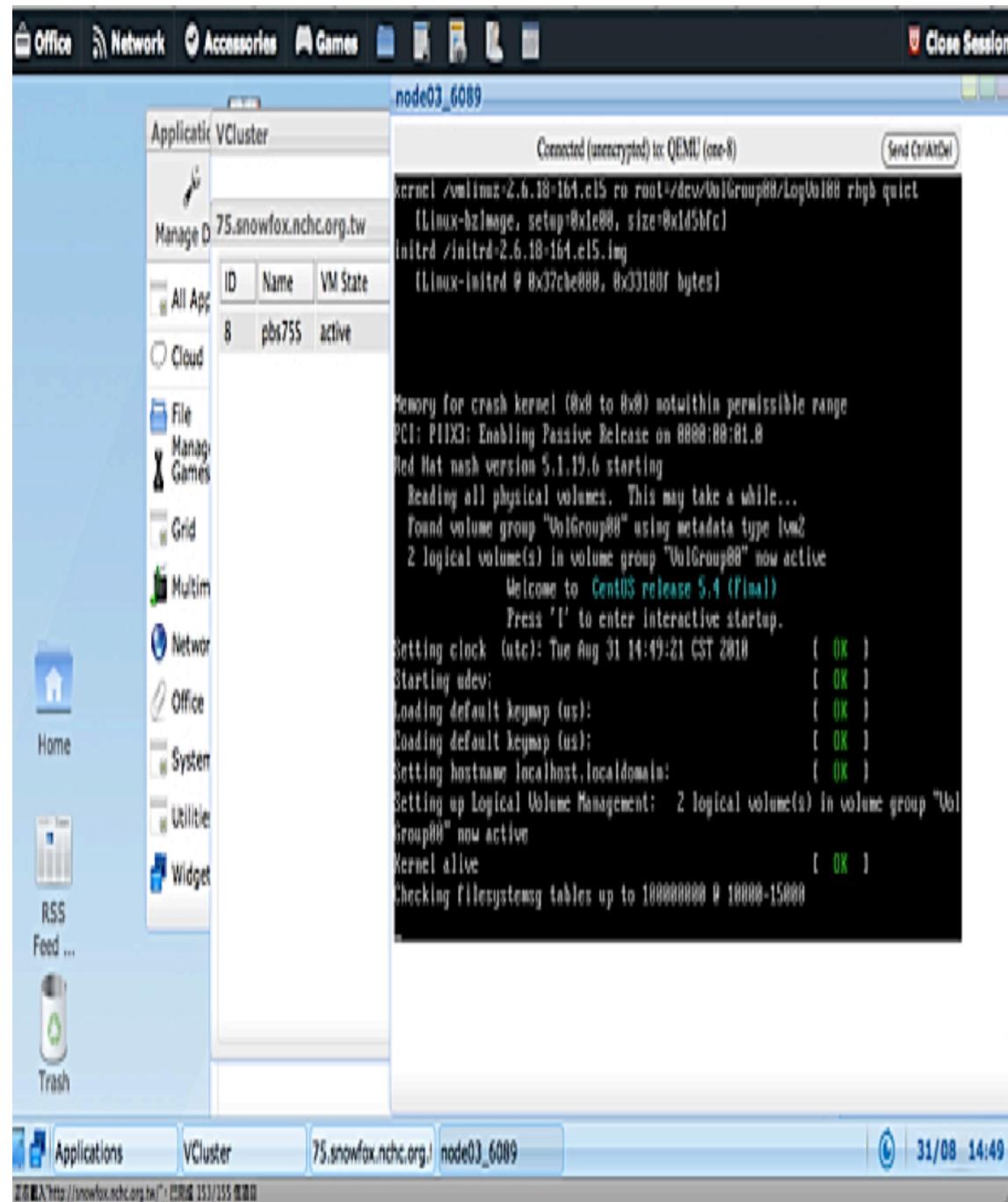
Snapshot:

Net\_RX: 5114355  
Net\_TX: 198698115  
Used Memory: 1024M  
Used CPU: 1

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# Ezilla -- the ad.

## ◆New Look



# Ezilla -- the ad.

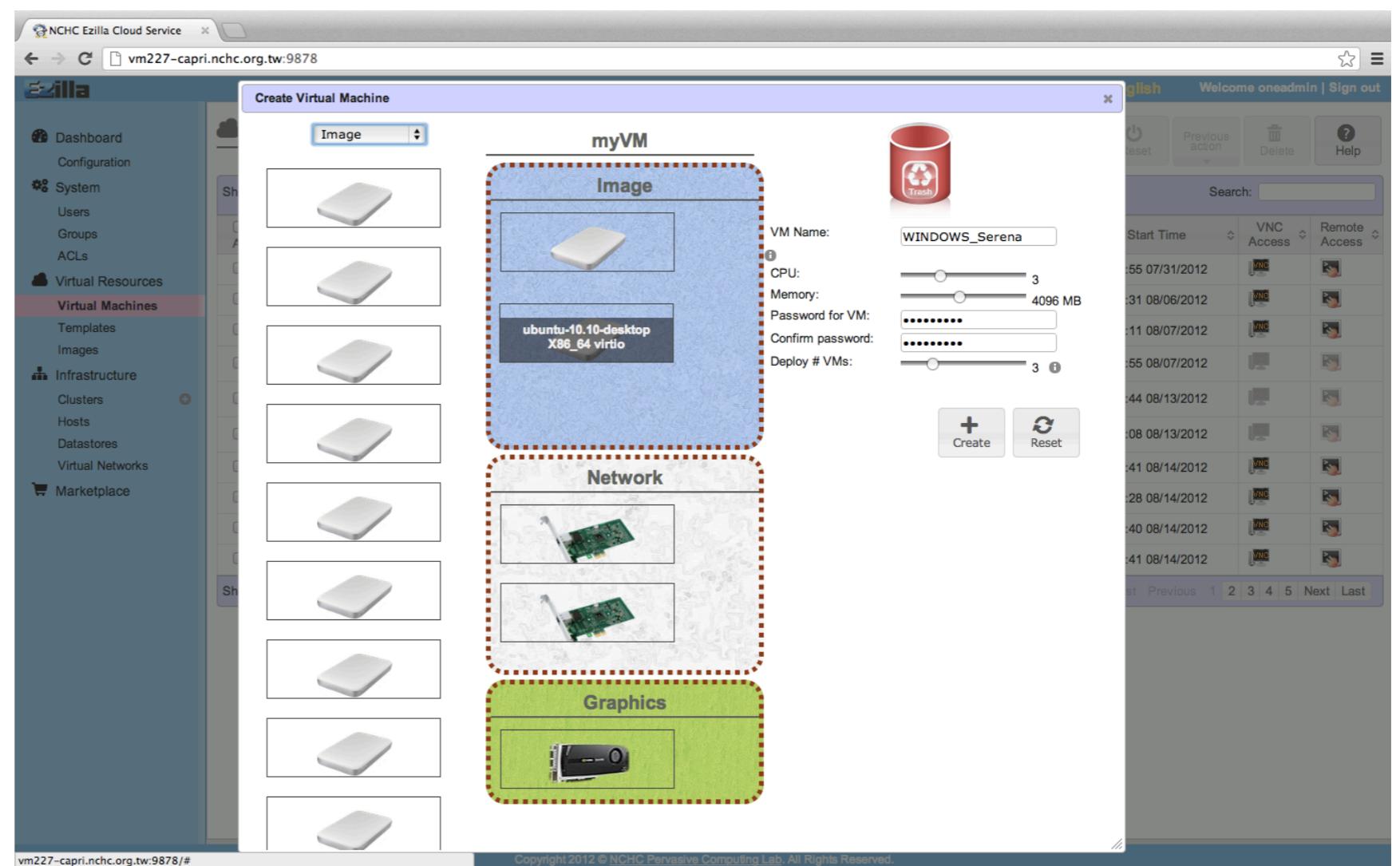
## ◆ D&D

### ■ Why?

- A straightforward and intuitive way of building Cloud resources

### ■ Tech.

- Cascading Style Sheets version 3 (CSS3)
- HTML5
- jQuery



# Marketplace

## ◆ Marketplace

The screenshot shows the Ezilla OpenNebula Marketplace interface. On the left, a sidebar menu includes Dashboard, Configuration, System (Users, Groups, ACLs), Virtual Resources (Virtual Machines, Templates, Images), Infrastructure (Clusters, Hosts, Datastores, Virtual Networks), and Marketplace (selected). The main content area displays the 'OpenNebula Marketplace' with a table of three entries:

Name	Publisher	Hypervisor	Arch	Format
Ezilla Virtual Cluster - Head node	NCHC Pervasive Computing Labs	KVM	x86_64	raw
Ezilla Virtual Cluster - Computing node	NCHC Pervasive Computing Labs	KVM	x86_64	raw
F-Motif App Image	NCHC Pervasive Computing Labs	KVM	x86_64	raw

Below the table, a message says 'Showing 1 to 3 of 3 entries'. To the right, there's a 'Refresh' button and an 'Import to local infrastructure' link. Under the 'Appliance information' tab, details for the F-Motif App Image are shown:

ID	4fcf5d0a8fb81d1bb8000003
URL	<a href="http://10.0.0.254:5555/appliance/4fcf5d0a8fb81d1bb80">http://10.0.0.254:5555/appliance/4fcf5d0a8fb81d1bb80</a>
Publisher	NCHC Pervasive Computing Labs
Downloads	0
OS	Ubuntu 12.04
Arch	x86_64
Size	546M
Hypervisor	KVM

The 'Description' section states: 'F-Motif uses clustering of sequence information represented by numerical features that exploit the statistical information hidden in some foreground data'.

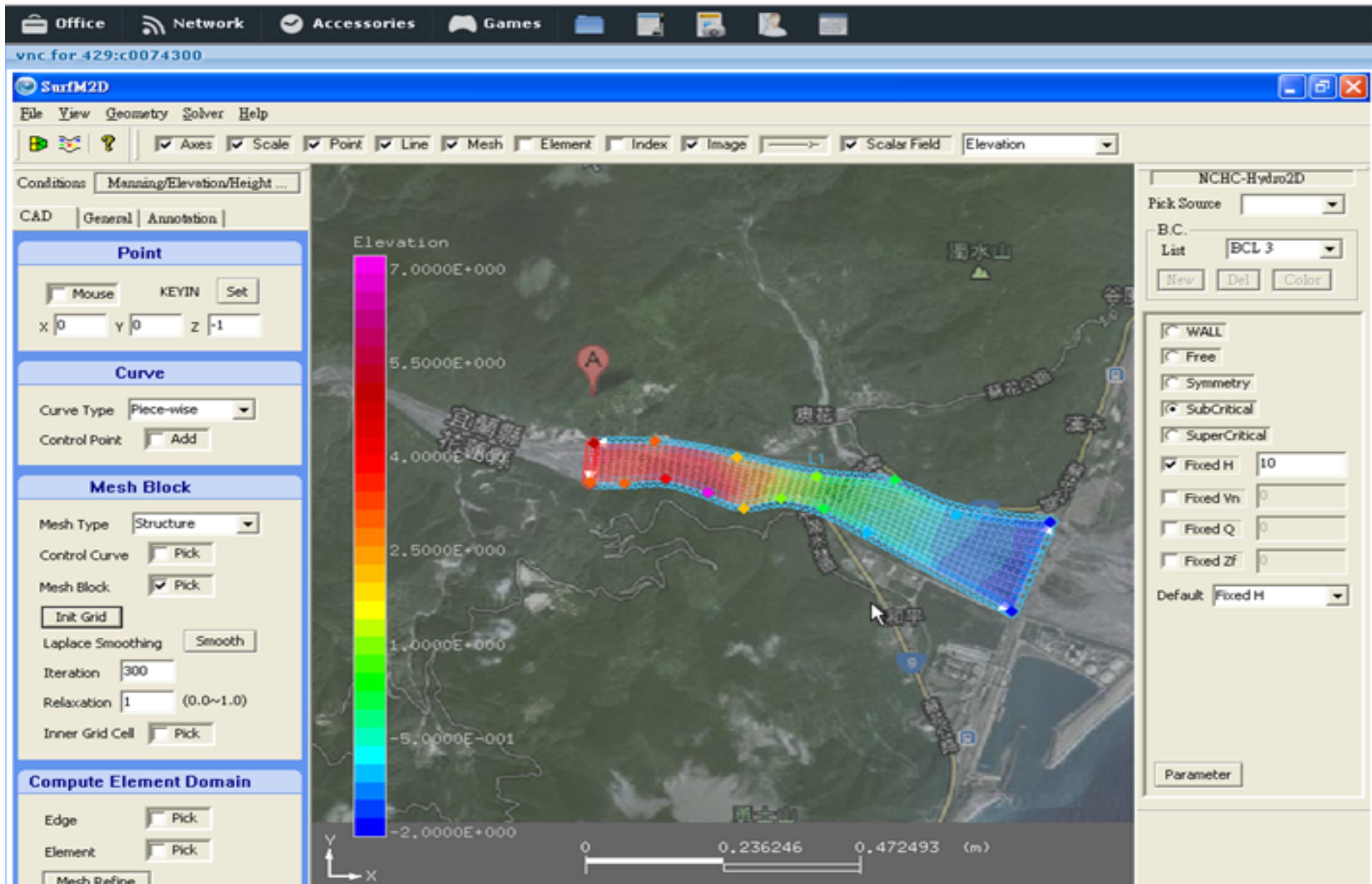
## ◆ Status Report :

- Once an image is added into the “Marketplace”, users should be able to choose in the D&D, in the near future.

# Demo

- ◆ Marketplace
- ◆ D&D to generate VC
- ◆ D&D with VM of F-motif from Marketplace

# Scientific/Engineering Application



# Educational Purpose

Forecasting as a Service

<http://astro.nchc.org.tw:46612/FAAS/pages/home.php>

Gmail - 國網... Forecasting a... PROGRAM:2... PRAGMA Clo... Gfarm - PRA... MFS Info (Mo... Answer : Dea... Issue on Cen... September N...



Introduction  
預測方法介紹

Uploading  
匯入資料

Forecasting  
as a Service

Example  
範例資料

About Us

# Call for Participation

## ◆ Join the Marketplace

- Share your applications with the community
  - Save your specific AP with VM
  - Publish to the Marketplace
  - Load it up locally and run the AP

## ◆ Building more Ezilla sites

## ◆ Recommendation of new features



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# Give it a shot & Thank you

## ◆ Test Drive as an user

- EasyCloud service
  - <http://easycloud.nchc.org.tw>

## ◆ Ezilla information

- <http://ezilla.nchc.org.tw>
- <http://ezilla.info>

## ◆ Sourceforge

- <http://ezilla-nchc.sf.net>

## ◆ Our Lab.

- <http://percomp.nchc.org.tw>