

Cloud Innovations and Risks

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#whoami

- Ops guy
- Director, VP Infrastructure @ The ASF
- Member of a few cloud-y open source projects
- Employed by Citrix in the Open Source Business Office

Cloud, Containers and the conundrums they cause

Where is cloud (IaaS)

- Public clouds are still growing
- Private cloud market place has narrowed considerably.



 EUCALYPTUS

The Eucalyptus logo consists of a small green square icon with a white stylized 'E' inside, followed by the word "EUCALYPTUS" in a dark blue, all-caps sans-serif font.

Open**Nebula**.org

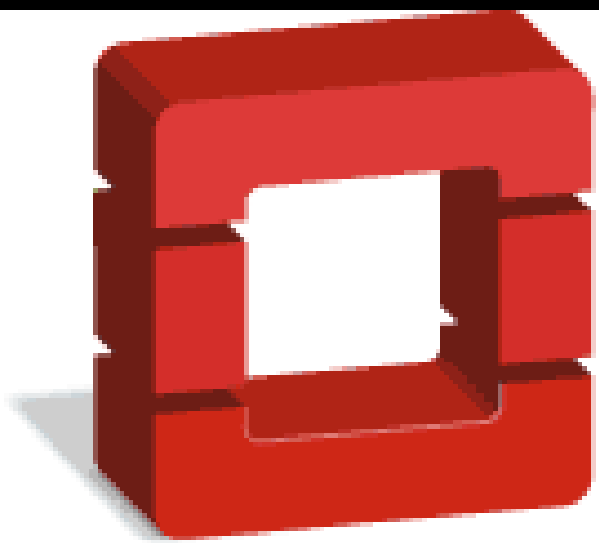
The OpenNebula logo features the word "Open" in a dark grey sans-serif font, followed by "Nebula" in a blue sans-serif font, and ".org" in a dark grey sans-serif font.

cloudstack

The CloudStack logo features the word "cloud" in a blue sans-serif font and "stack" in a grey sans-serif font.



apachecloudstackTM
open source cloud computing



openstackTM
CLOUD SOFTWARE

Of course that's just open source



vCloud Automation Center

What's the IaaS market doing?

- Still largely niche workloads or dev/test
- Many are discovering that the operation of an internal cloud over the long term can easily erode advantages over public cloud.
- The others are accelerating past IaaS.

What about PaaS

- Similarly there's been a consolidation of the PaaS market.
- PaaS is still very nascent. Most production uses remain niche, but the promise is strong.



CLOUD
FOUNDRY™



OPENSIFT

PaaS risks and concerns

- CloudFoundry Foundation is seeing a ton of adoption. Must avoid collective prisoner dilemma.
- Openshift is pivoting to the changing landscape incredibly well, but will they be able to build a developer community beyond Red Hat?

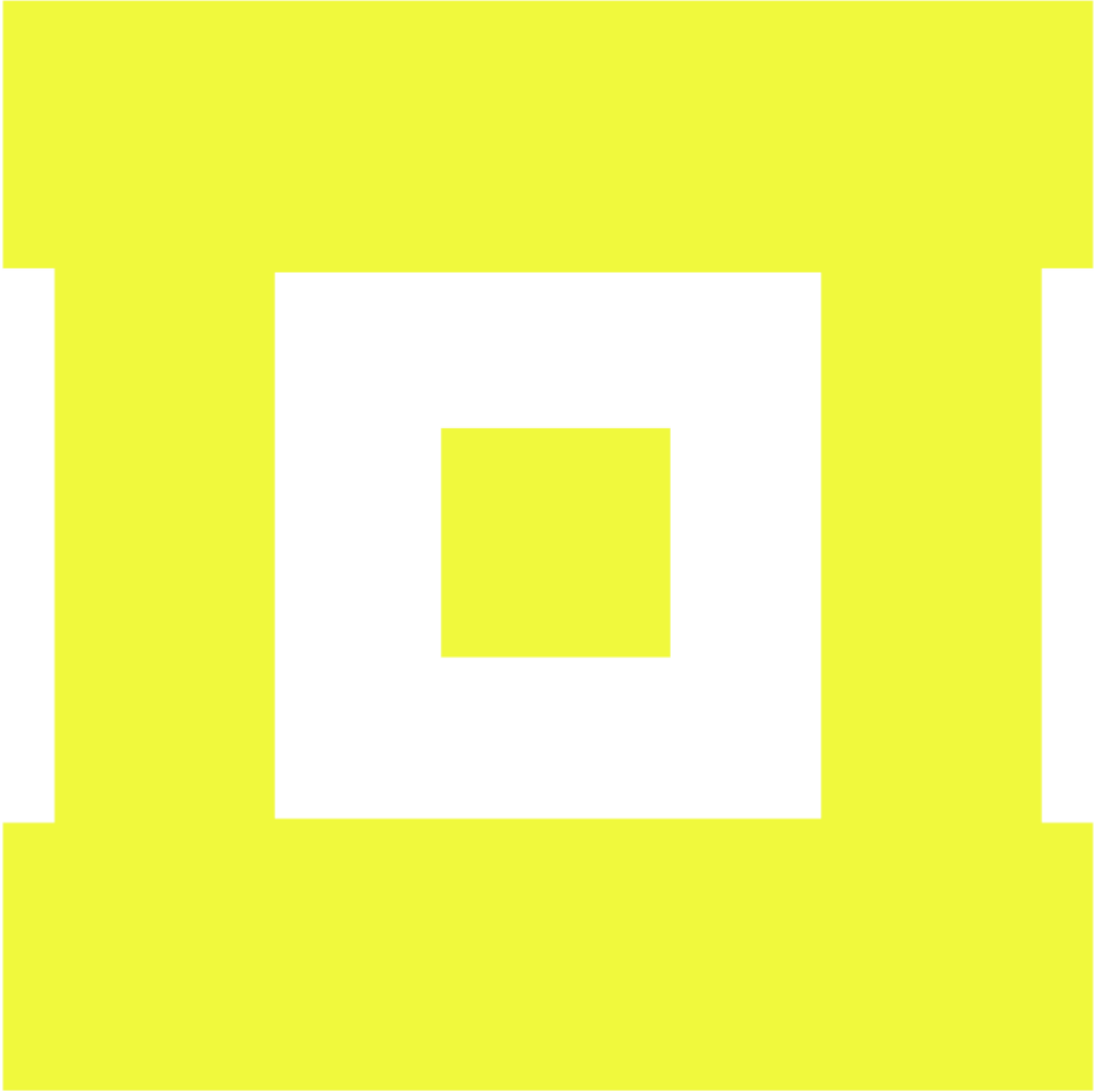
Containers

- Perhaps even more hyped than cloud
- Amazing how we get excited about a technology widely available over a decade ago.
- Containers aren't inherently exciting.
- The exciting bits are:
 - Packaging
 - Coordination

Container formats



rk



Containers have a problem

Security

Isolation isn't as good as virtual machines or physical machines.

Containers have a problem

Security

People are consuming entire images, wholesale, from untrusted sources.

Of course, cloud and containers have
a common problem.

Jevons paradox

...when technological progress increases the
efficiency with which a resource is used
(reducing the amount necessary for any one
use), but the rate of consumption of that
resource rises because of increasing demand.

What's next

Rather than managing virtual machines, people are deploying services, using schedulers to ensure availability, to deploy according to rules around affinity/anti-affinity.

Mesos

Kubernetes

Questions