Cloud Hosting

QCLUG presentation
- Aaron Johnson

- Amazon AWS
- Heroku
- OpenShift

What is Cloud Hosting?

According to the Wikipedia -

“Cloud computing, or in simpler shorthand just "the cloud", focuses on maximizing the effectiveness of shared resources”

So by this definition Cloud Hosting could be the same thing as shared hosting...

...But cloud hosting is all about highly automated Self Service hosting

Cloud hosting is a next-gen hosting concept, so cPanel doesn't count

Whether you're talking about IaaS, PaaS, or SaaS cloud hosting needs to be as dynamic as possible

Ref: http://en.wikipedia.org/wiki/Cloud_computing

How many types of Could Hosting are there?

There are many types of Cloud Hosting, but these types are the most common.

We will be reviewing IaaS and PaaS primarily during this presentation

Infrastructure as a Service (IaaS)

- Amazon AWS EC2, Google Compute Engine, Microsoft Azure

Platform as a Service (PaaS)

- Heroku, OpenShift Online, Amazon AWS Elastic Beanstalk

Software as a Service (SaaS)

- Cisco WebEx, Office 365, (too many to list)

Ref: http://en.wikipedia.org/wiki/Cloud_computing

Infrastructure as a Service (IaaS)

What is Infrastructure as a Service and who should use it?

Infrastructure as a Service (IaaS) can be simply defined as Self Service automated server provisioning.

- Servers could be Virtual or Physical (but more commonly Virtual) – Think VPS hosting on steroids
- Provisioning interface is usually simple and easy to use
- Server creation can usually be automated, this is generically called “Orchestration”

Customers of IaaS cloud hosting are typically medium to large businesses who need servers but don't want to own servers and don't want to pay for server admins to maintain said servers.

Also smaller web hosting companies are big IaaS customers

Can you host your own IaaS cloud?

- Yes, that would be called OpenStack, but we'll save that for another meeting ;)

Platform as a Service (PaaS)

What is Platform as a Service and who should use it?

Platform as a Service (PaaS) is Self Service automated application deployment and hosting.

- Customers don't think of hosting in terms of “Servers”
- Application environment is “tailored” to the programming language that the application is written in (PHP, Ruby, Python, Java, etc.)
- Code deployment is done typically through version control system pushes (such as git) and deploy hooks
- Code Deployment can be made more robust and less error prone by utilizing Continuous Integration systems such as Jenkins CI.

Customers of PaaS cloud hosting could be anyone who needs to host an application.

PaaS providers offer hosting packages that are affordable and can be priced for anyone from hobbyists to developers to fortune 500 companies.

Software as a Service (SaaS)

What is Software as a Service and who should use it?

Software as a Service (SaaS) is typically managed application hosting provided by the application vendor

- Customers are simply end users
- Any application that can be centrally hosted can be offered via SaaS
- Typically proprietary hosting solution that does not involve the customer outside of the application's primary purpose

Amazon AWS EC2

Amazon Web Services EC2 (IaaS)

- Strengths:
  - Rapidly deploy servers
  - Purchase and deploy pre-built servers from the AWS Marketplace
  - Robust and reliable server hosting
  - Can be integrated with other clouds such as OpenStack
- Weaknesses:
  - OS, software stack, and application is unmanaged
  - Skilled admins are required to set up and maintain AWS EC2 clouds.
  - Requires Credit Card to get started

Amazon AWS EC2

Demonstration

- Create VM from an AMI image
- Assign it a public IP address
- Configure port forwarding via Security Groups
- Add EBS Storage

Heroku

Heroku (PaaS)

- Strengths:
  - Ease of Scalability (Application instances are called Dynos)
  - Pay for what you use pricing model
- Weaknesses:
  - Hosted on-top of AWS EC2
    - May not be a weakness, but is certainly note worthy.
  - No persistent storage, must use Amazon S3 or similar file store service
  - Most features require a “verified account” which requires you to enter your credit card.

Heroku

Demonstration

- No demonstration prepared, time permitting we can play with Heroku at the end of the presentation.

OpenShift Online

OpenShift Online (PaaS)

- Strengths:
  - Ease of Scalability (Application instances are called Gears)
  - Pay for what you use pricing model
  - Free account with 3 small Gears for anyone
  - OpenShift has an upstream open source platform called **OpenShift Origin**
- Weaknesses:
  - Appears to be hosted on-top of AWS EC2 as well
    - May not be a weakness, but is certainly note worthy.

OpenShift Online

Demonstration

- Create free account
- Create namespace (domain)
- Create application (gear)
- Create alias (custom domain name)
- Upload application
- Browse to application

Questions?