Carolina CloudApps

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Middleware Services
*-as-a-Service Introduction

• IaaS – Infrastructure as a Service
• PaaS – Platform as a Service
• SaaS – Software as a Service
Infrastructure as a Service (IaaS)

- Abstraction of underlying hardware resources

- Examples:
  - Amazon EC2
  - ITS Virtual Machines
Platform as a Service (PaaS)

• Abstraction of the underlying hardware, software, and application resources

• Examples:
  – Microsoft Azure
  – Carolina CloudApps
Software as a Service (SaaS)

• Complete abstraction

• Example:
  – Qualys
  – Google Apps
  – web.unc.edu
What is Carolina CloudApps

- Platform as a Service (PaaS) using Red Hat’s OpenShift Enterprise
- Managed platform for web application development (LAMP stack)
- Eventual replacement for legacy apps on www.unc.edu
- Freely available for all students, faculty and staff
- Out of the box support for Java, PHP, Python, Perl, Ruby, node.js
- Out of the box support for MySQL, MongoDB and Postgres
- Large community support for 3rd party applications via quickstarts (https://hub.openshift.com/)
Features

• http(s)://<your_app_name>-<your_onyen>.apps.unc.edu
• Free SSL certificate support for *.apps.unc.edu
• SSH access (database command-line tools, troubleshooting)
• Log files access (via SSH and through command-line tools)
• Custom domains (with custom SSL certificates)
• Most importantly, freedom to do what YOU want to do
Potential Migration Paths for www.unc.edu Applications

- AFS decommission
- Static content --> web.unc.edu
- Programmatic content (Perl, Python, etc) --> cloudapps.unc.edu
Department/Project Containers

- Team/collaborative development
- Not tied to individual Onyen
- ACLs per project
Next Step for CloudApps

• Sensitive Information
  – Working with ITS Security on this currently

• OpenShift version 3
  – Full Docker image
  – Kubernetes orchestration
  – Ability to mount persistent storage
  – Unique IP addresses
Live Demo
Questions

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