How to do better devOps by Pivotal Cloud Foundry

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Pivotal

Pivotal	软件定义企业
vmware	软件定义数据中心
EMC II	软件定义存储

Pivotal products

- Greenplum DB

- Pivotal Hadoop

- Pivotal HAWC

- Cloud Foundry

- Gemfire / SQLFire

- Spring Source

- PWS (run.pivotal.io)

- Pivotal Labs

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Agenda

- devOps
- Platform as a Service
- Cloud Foundry
- Better devOps with Cloud Foundry

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devOps = development + operatioin

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Why devOps

- Quick response

- Continuous delivery

- Fast Fail

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devOps = development + operation

- How to do devOps
  - Agile process
  - Release management
  - Automatic, light weight, rollbackable release
  - Resource virtualization and Cloud computing
  - etc

Platform as a Service (PaaS)

Platform as a Service (PaaS)

- Cloud computing service
- Focus on application, service, technology stack, etc.
- Not focus on VM, memory, network, etc

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Why PaaS

- Computing history
  - Machine language -> assemble language
  - Assemble language -> C / Pascal
  - C / Pascal - > Java
 - Scale up -> Scale out
  - IaaS -> PaaS

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Why PaaS (cont)

- Make application deployment easy

- Make application upgrade easy

- Make application scale out easy

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Pivotal Cloud Foundry

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Cloud Foundry

- Cloud Computing Platform
- Platform as a Service (PaaS)
- Open Source
- Originally developed by VMWare and now part of Pivotal Software

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Cloud Foundry Architecture
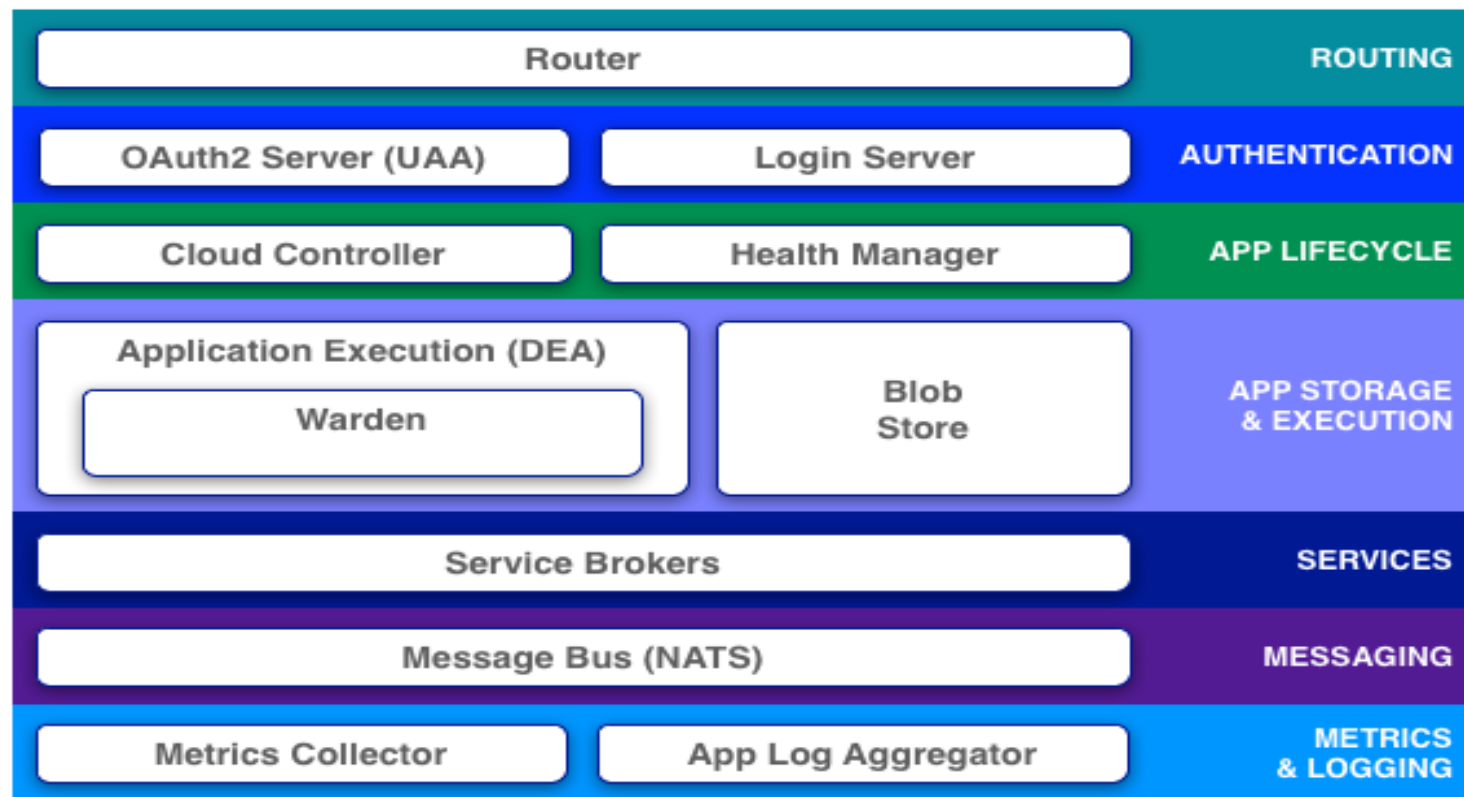
Cloud Foundry

- Supported IaaS
  - VMWare vSphere, vCloud
  - Openstack
  - Amazon AWS
- Deployment
  - BOSH
  - Pivotal Ops Manager

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Scale Cloud Foundry

- Scale Cloud Foundry Platform
  - DEA nodes
  - Router
  - Cloud Controller
- Scale Cloud Foundry Application
  - HA proxy
  - No Sessions
  - Scale up and scale out

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Better devOps with Cloud Foundry

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Better devOps with Cloud Foundry

- Cloud Foundry is designed for devOps
  - One environment for dev/QA/production
  - Application deployment
  - Online upgrade
  - A/B test
  - Application scale out

Better devOps with Cloud Foundry

- One environment for dev / QA / production
  - Make dev, test environment as same as production
  - How?
    - Different orgnization
    - Different app space

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Better devOps with Cloud Foundry

- Application deployment
  - Very simple, can be done in command line
  - Cf push
  - Domain binding

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Better devOps with Cloud Foundry

- Online upgrade
  - BOSH tool
    - Distributed configuration management and deployment tool
  - Upgrade strategy
    - Single node application
    - Distributed application
    - migration

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Better devOps with Cloud Foundry

- Beta test with router node
    - Routing request to beta deployment
- A/B testing with domain name
    - Bind a domain name to 2 applications

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