

Pivotal



Pivotal Cloud Foundry

Services Overview

What is a Service

- Allows resources to be easily provisioned on-demand, via self service APIs
- Typically middleware, frameworks, and other “components” necessary for applications (e.g., Database, Message Queue, etc.)
- Can be a persistent, stateful layer

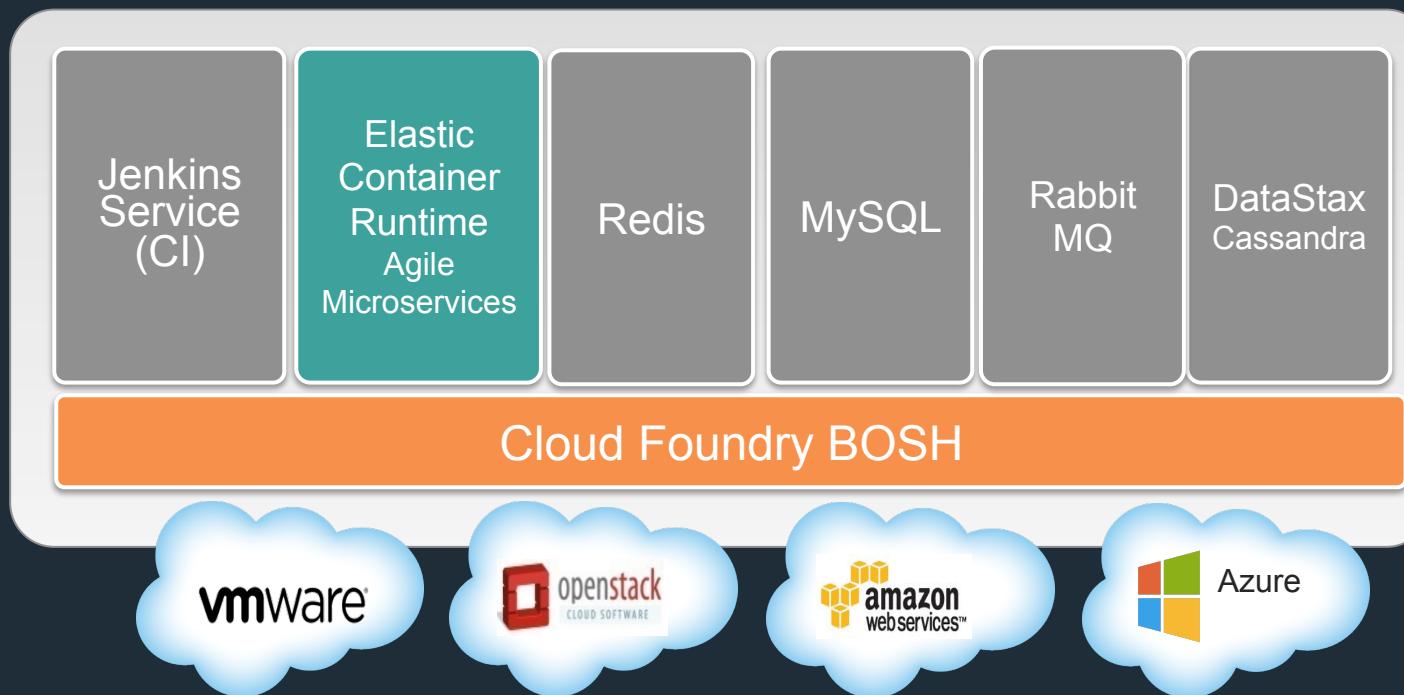


Three Types of Services



- **Managed** - Fully integrated, with full lifecycle management
- **Brokered** – Uses a service broker but is external to the platform
- **User-Provided** – Created and managed external to the platform

A Multi-Cloud Platform: Cloud Foundry

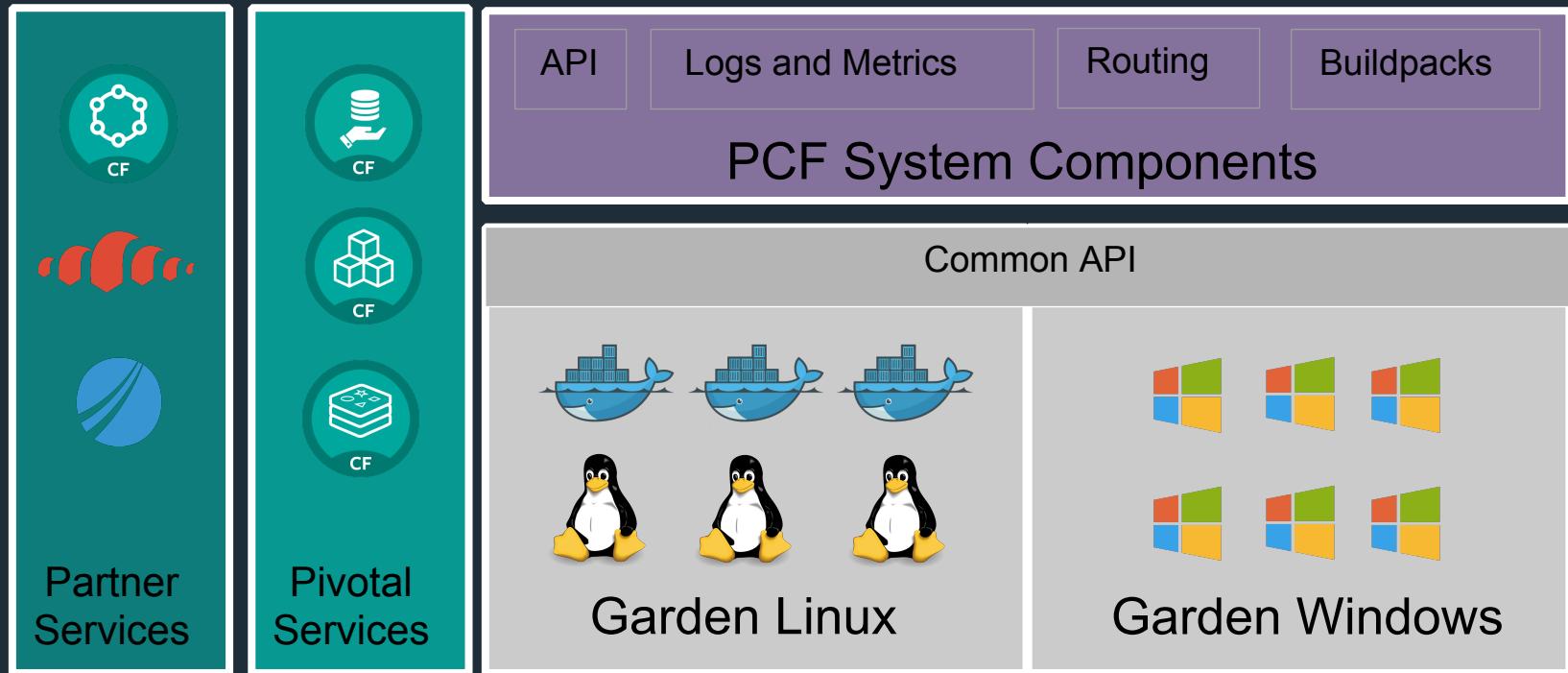


Elastic managed runtime service integrated into leading data services; all scaled and managed by CF BOSH

Multi-Cloud Declarative Service Deployment, Operations

PCF – Functional Architecture

Single Platform and API for multiple Cloud Native workloads



Pivotal Cloud Foundry Services

Mobile



App Distribution



Push Notifications

Security



Single Sign-on



Redis



MySQL



Data Flow



Session state caching

Data



DataStax Cassandra



RabbitMQ



PivotalHD



GemFire

CI/CD



Git Lab



Jenkins Enterprise

Monitoring



App Dynamics



New Relic

Cloud Native



Config Server



Service Directory



Circuit Breaker

Powered by



Pivotal™

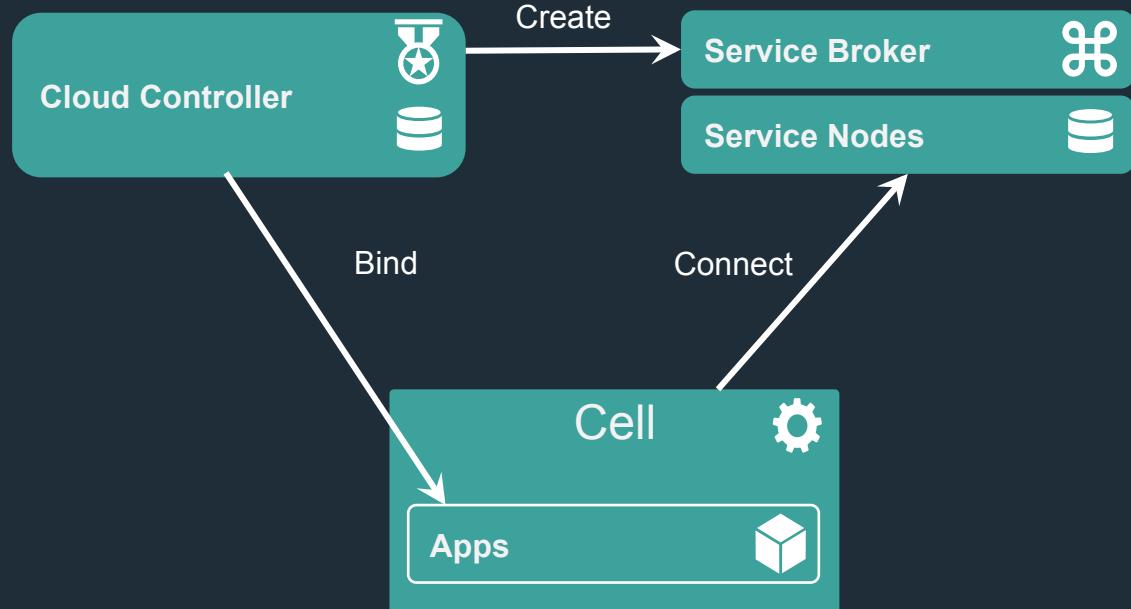
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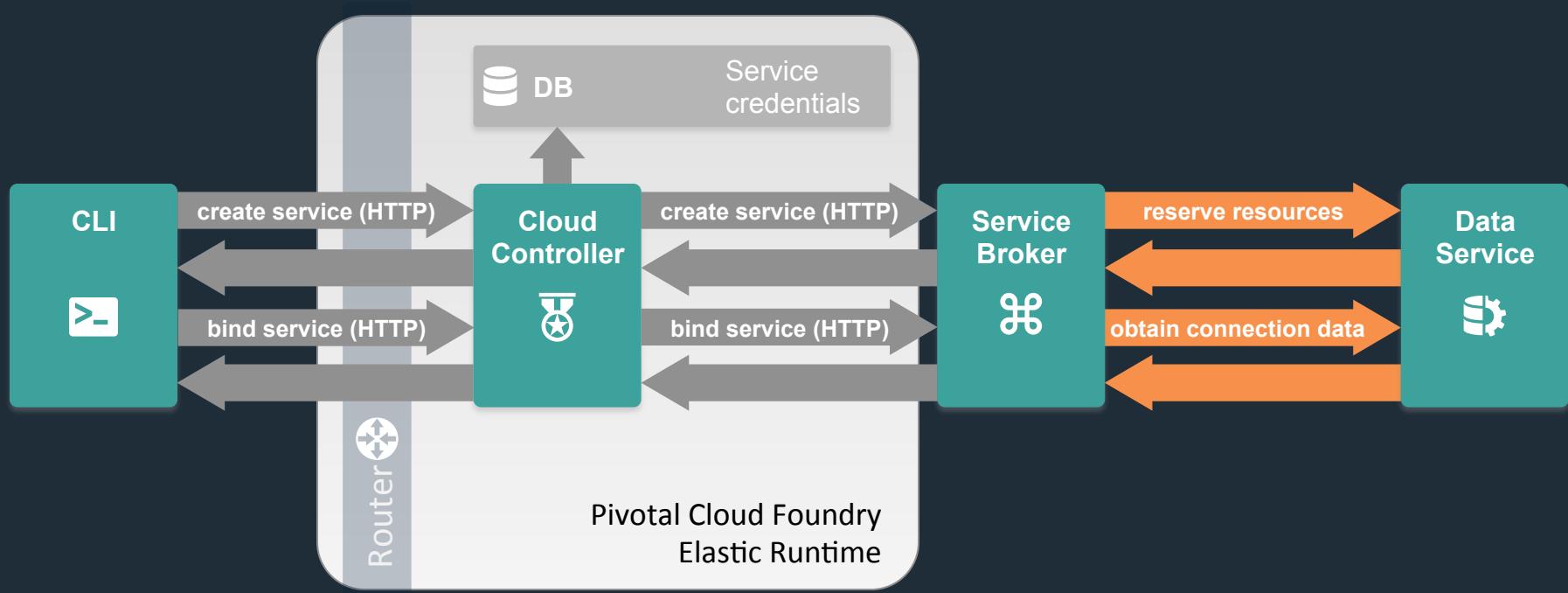
CF

Service Broker

- Flexible, RESTful API
- Allows Service Authors to provide self-provisioning Services to developers



Creating and Binding a Service



Pivotal Cloud Foundry Services



- Operated ‘as a Service’
- Configured and integrated to enable push button deployment
- Full lifecycle management - software updates and patching
- Bind to apps through an easy-to-use interface
- Common view into access control and audit trails across a breadth of services

PCF Marketplace

- Broad Services Ecosystem
- Easy accessibility
- Quick, self-provisioning

The screenshot displays two main interfaces of the Pivotal CF Marketplace:

- Services Marketplace:** A grid of service icons and names. Some visible services include:
 - Search (Cloud search for your content)
 - Blastfaster (The faster load testing cloud)
 - Redis Cloud (Enterprise Cloud Redis for Developers)
 - ElephantSQL (PostgreSQL as a Service)
 - New Relic (Manage and monitor your apps)
 - HemeraCloud (OpenShift Container Platform for Developers)
 - IronWorker (Build Management and Asynchronous Processing)
 - Codatio OpenShift (OpenShift Container Platform Load Balancer)
 - Scalac (AI Configuration Platform)
- Pivotal CF Ops Manager:** A dashboard showing available products and their versions. The Available Products section includes:
 - Ops Manager Director (No upgrades available)
 - Spring XD for Pivotal CF (No upgrades available)
 - Pivotal Elastic Runtime (No upgrades available)
 - Docker (0.0.0.19)
 - Pivotal RabbitMQ (1.3.6.0)
 - MongoDB for Pivotal CF (1.3.2.0)
 - Jenkins Enterprise by CloudBees for Pivotal CF (No upgrades available)The Installation Dash section shows the status of various services:
 - vcloud Hybrid Service (v1.3.2.0)
 - Spring XD for Pivotal CF (v1.0)
 - Pivotal Elastic Runtime (v1.3.2.0)
 - Pivotal RabbitMQ for Pivotal CF (v1.3.4.0)
 - Jenkins Enterprise by CloudBees for Pivotal CF (v1.3.8.3)
 - Pivotal Redis (v1.4.1.0)

Pivotal™

BDS Vision: Make all data products cloud-ready.

Open.
Agile.
Cloud-ready.

Pivotal BDS on PCF

- ✓ **Production:** RabbitMQ, Redis, GemFire/Geode
- ✓ **Beta:** PivotalHD (includes HAWQ), Data Flow

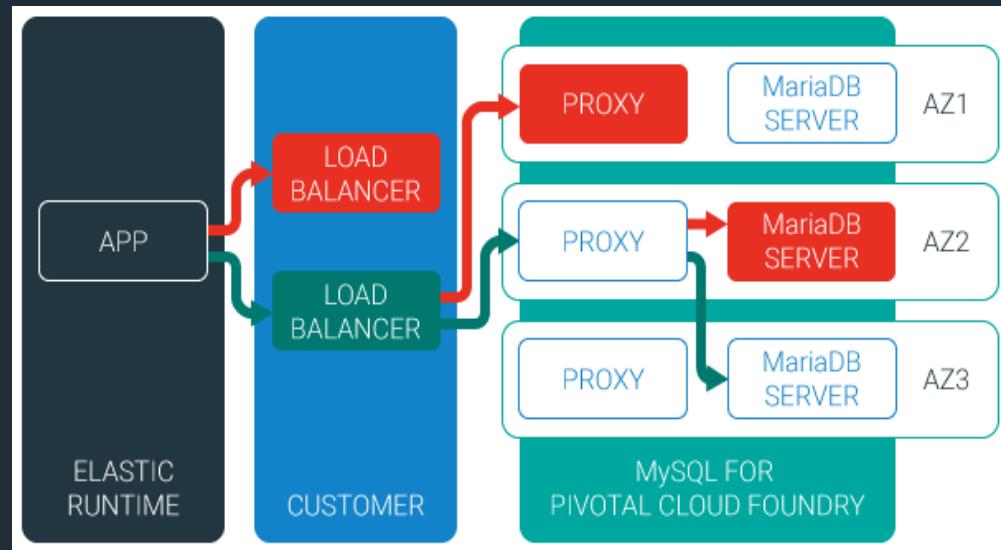




MySQL for Pivotal Cloud Foundry

Relational Database as a Service for Your Applications

- Minimized effort to create, configure, and manage a MySQL cluster
- Multi-node cluster
- Data replication across nodes
- Failover functionality ensures app traffic only routed to healthy nodes

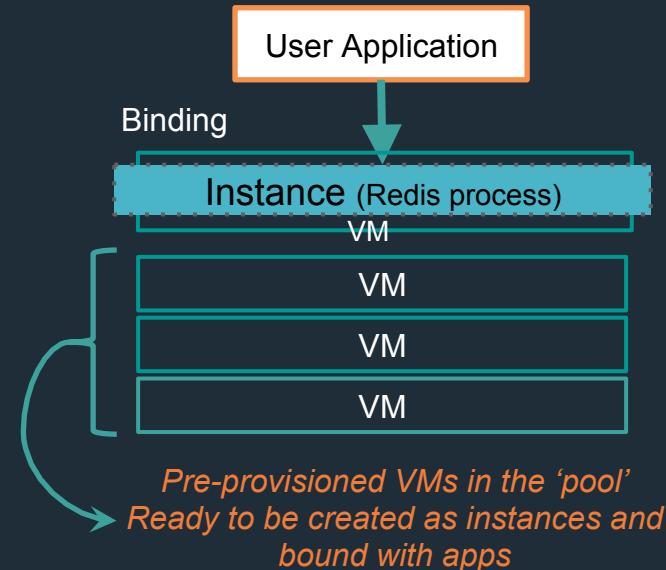




Redis for Pivotal Cloud Foundry

Advanced Key-Value Store and Cache as a Service

- Pre-provision a pool of Redis VMs
- Supports persistence to disk
- Consolidated logging and monitoring
- VM health monitoring, and recovery

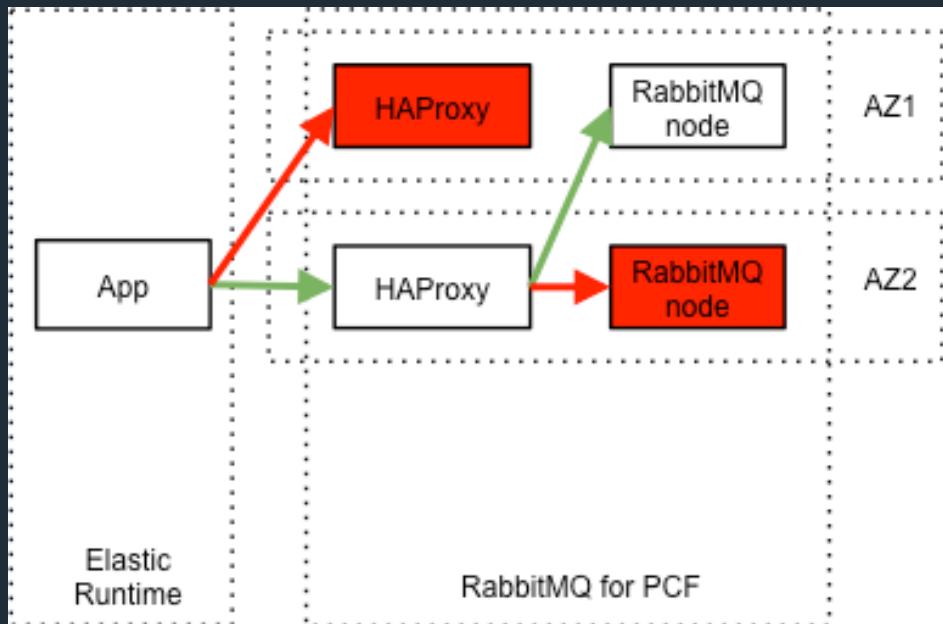




RabbitMQ for Pivotal Cloud Foundry

Apps safely send and receive messages at scale

- Messaging broker for communication between servers, applications and devices
- Highly available queues, flexible routing, support for multiple protocols and client libraries
- Wide range of client libraries, in all languages
- Push button deployment and upgrades of a RabbitMQ Cluster



Session State Caching (SSC) by GemFire



- Configure, manage, monitor, and consume GemFire in a client/server topology
- A turn-key GemFire session replication cache service optimized for Java buildpack apps deployed in Tomcat
 - No need to modify your app
 - Tomcat from the java buildpack “knows” how to use the service
 - GemFire pre-configured for session replication
- Session state management independent from app servers
 - App servers can come and go without affecting session lifetime
 - Not affected by load balancing

Diversity of clients, more load

In January 2014, mobile devices accounted for 55% of Internet usage in the United States. Apps made up 47% of Internet traffic and 8% of traffic came from mobile browsers.



<http://money.cnn.com/2014/02/28/technology/mobile/mobile-apps-internet/>

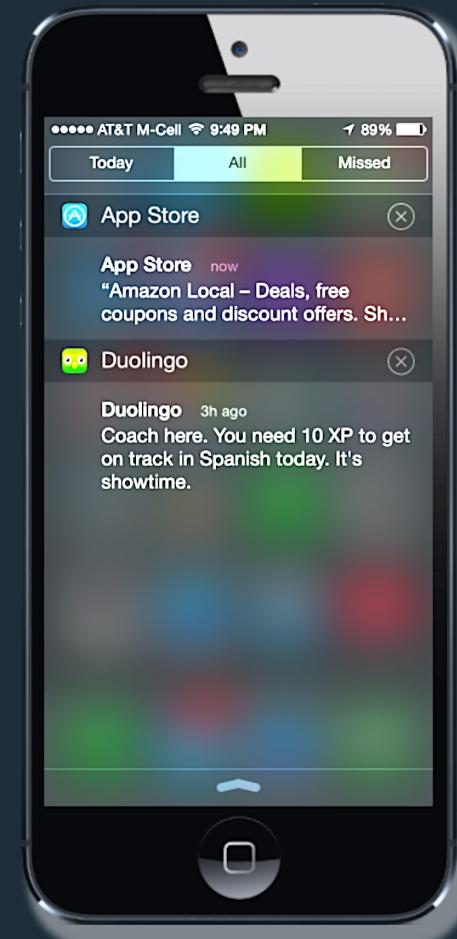
Push Notifications

Problem

- Push is difficult to implement across platforms and at scale
- Most existing push solutions are public / shared
- Data owned by SaaS provider and cannot be fully leveraged by enterprise
- Difficult to integrate SaaS push providers with services behind the firewall

Solution / Benefits

- Dedicated, comprehensive solution built to scale
- Full control of data and comprehensive logging / tracing
- Direct integration with enterprise services



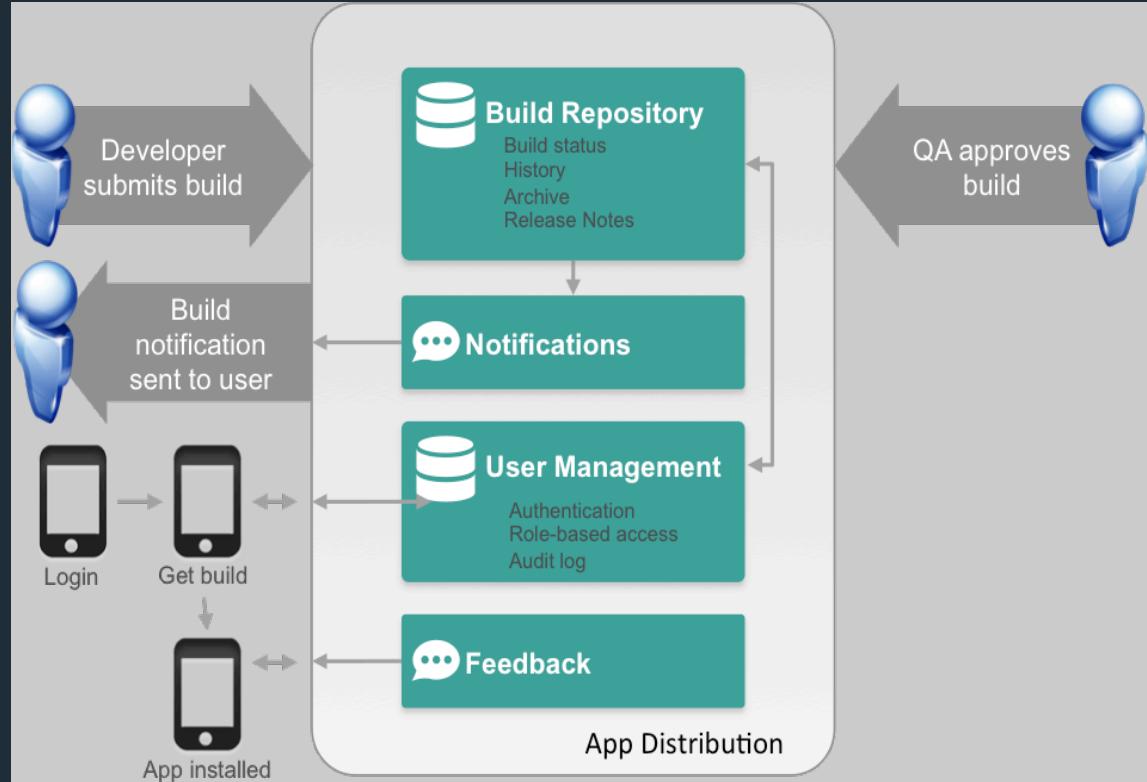
App Distribution

Problem

- Extensive user testing of apps is critical to success
- Difficult to distribute pre-release apps to test users
- Existing solutions are public cloud

Solution / Benefits

- Easy OTA app distribution
- User / team management
- Supports all major platforms
- Private cloud for management



Pivotal

BUILT FOR THE SPEED OF BUSINESS