Open Service Broker API

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Applications are not islands

- Often applications leverage ancillary "Services"
  - E.g. Application stores data in database
  - BaaS: Backend-as-a-Service
- Critical to application's success
  - But developers shouldn't spend their time managing them

Managing Services Can Be A Challenge

- Creating and managing services is non-trivial

- Duplication of effort across teams, or
- Ops team manages it for you on their schedule

- Managing credentials could be problematic
  - Sent via email, sticky-notes, etc...
  - Where are they stored? Plain text in config files?

Cloud Foundry Service Broker Model

- Shifts to a self-service/on-demand model
  - Provide a "Marketplace" of Services to choose from
  - "Tell us what you need and we'll manage it for you"
  - "We'll provide the credentials to the app at runtime"
- Minimizing time to deliver value to the market
- Increase developer velocity
- Developers focus on app code not operation of dependencies

User's Perspective

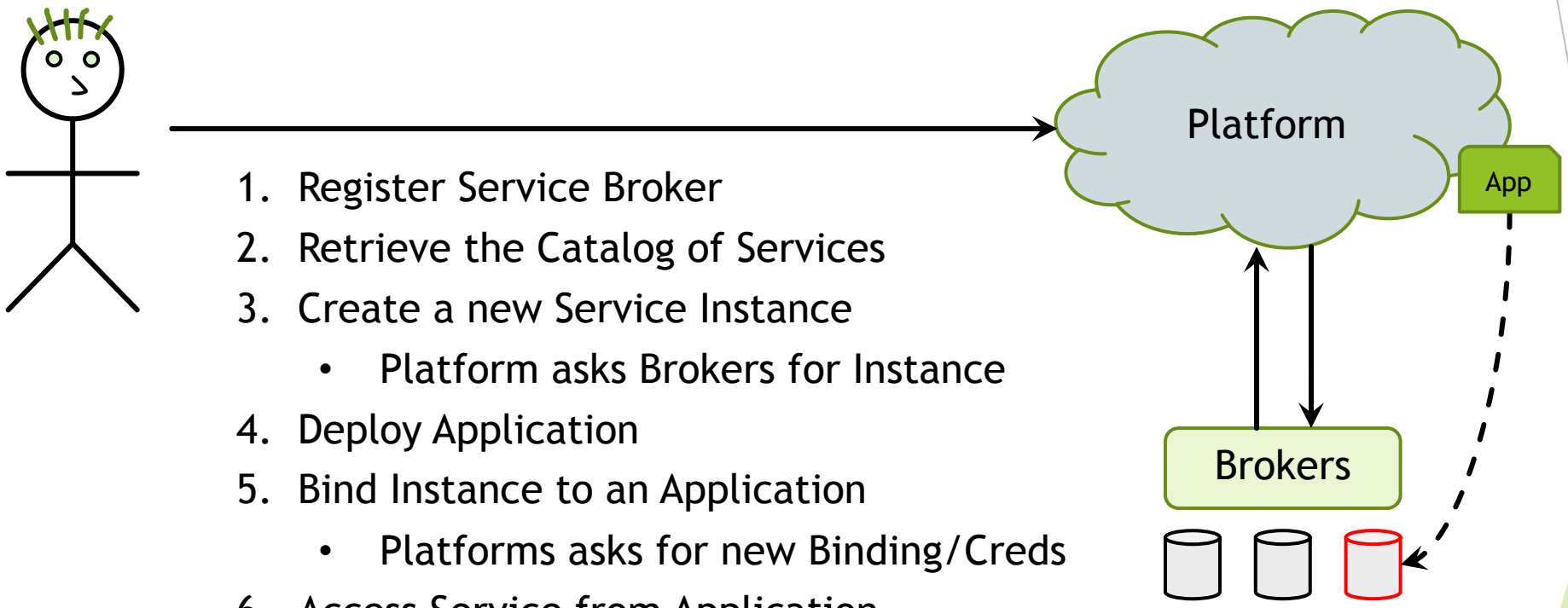
- Easy user experience

```
$ cf marketplace
$ cf create-service mysql free myDB
$ cf bind-service myApp myDB
```

- Credentials are made available to "myApp" via an env var

```
VCAP_SERVICE = {
"mysql":[{
  "credentials":
    "username":"fd7d1b58", "password":"c07750d55",
    "host":"fd7d1b58.db-svc.com", "port":443, ...
  }]
}
```

The Magic

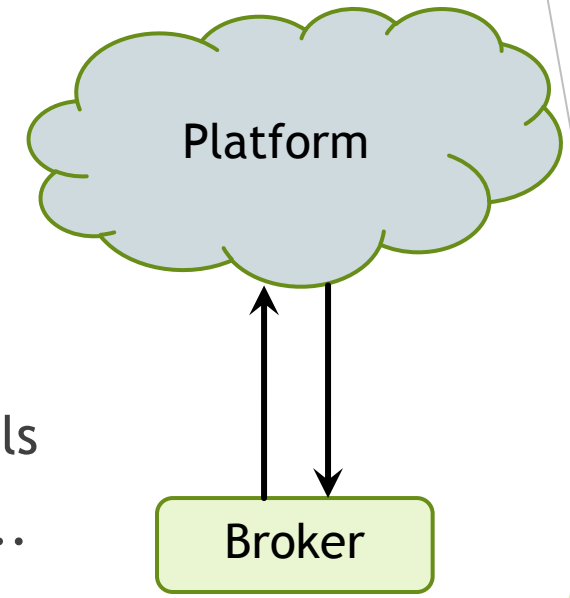


1. Register Service Broker
2. Retrieve the Catalog of Services
3. Create a new Service Instance
   - Platform asks Brokers for Instance
4. Deploy Application
5. Bind Instance to an Application
   - Platforms asks for new Binding/Creds
6. Access Service from Application
   - Using Creds from Binding
   - VCAP_SERVICES env var

Cloud Foundry Service Broker API

- API between the Platform and a Service Broker
- Abstracts the Service Lifecycle APIs

- Service Brokers
  - Manage all aspects of Service's lifecycle
  - User Initiated: Create, Delete, Provide Credentials
  - Automatic: Auto-Scale, Backup, Recovery, QoS, ...
  - Hosted anywhere – in or out of the Platform
    - Application is usually unaware



What is a Service?

- A service can be just about anything

- Data & Analytics – e.g. DBs, ElasticSearch
- Integration – e.g. Box, Twitter, SendGrid
- Utilities – e.g conversions, speech to text

- Infrastructure – networks, volumes, routing
- DevOps – monitoring, metrics, auto-scaling
  - Brokers reaching back into Platform on app's behalf

Why?

- Application Developers / Managers
  - Can focus on their business logic
  - Services managed by the experts
  - Self-service model speeds up CI/CD / Devliery timelines

- Service Providers
  - Low barrier or entry for new Service Providers
  - Interop: easily integrated into environments that supports the API
  - With ease of access to services, an increase in their usage ($)

Open Service Broker API

- CFF donated SB API to the Open Service Broker API Project

- OSB API Project
  - Evolve API into a community specification
  - To promote **interoperability** across Cloud Platforms (beyond CF)
    - Cloud Foundry, **Kubernetes**, OpenShift
  - Support of key Cloud leaders:
    - Fujitsu, Google, IBM, Microsoft, Pivotal, RedHat and SAP
    - Docker?

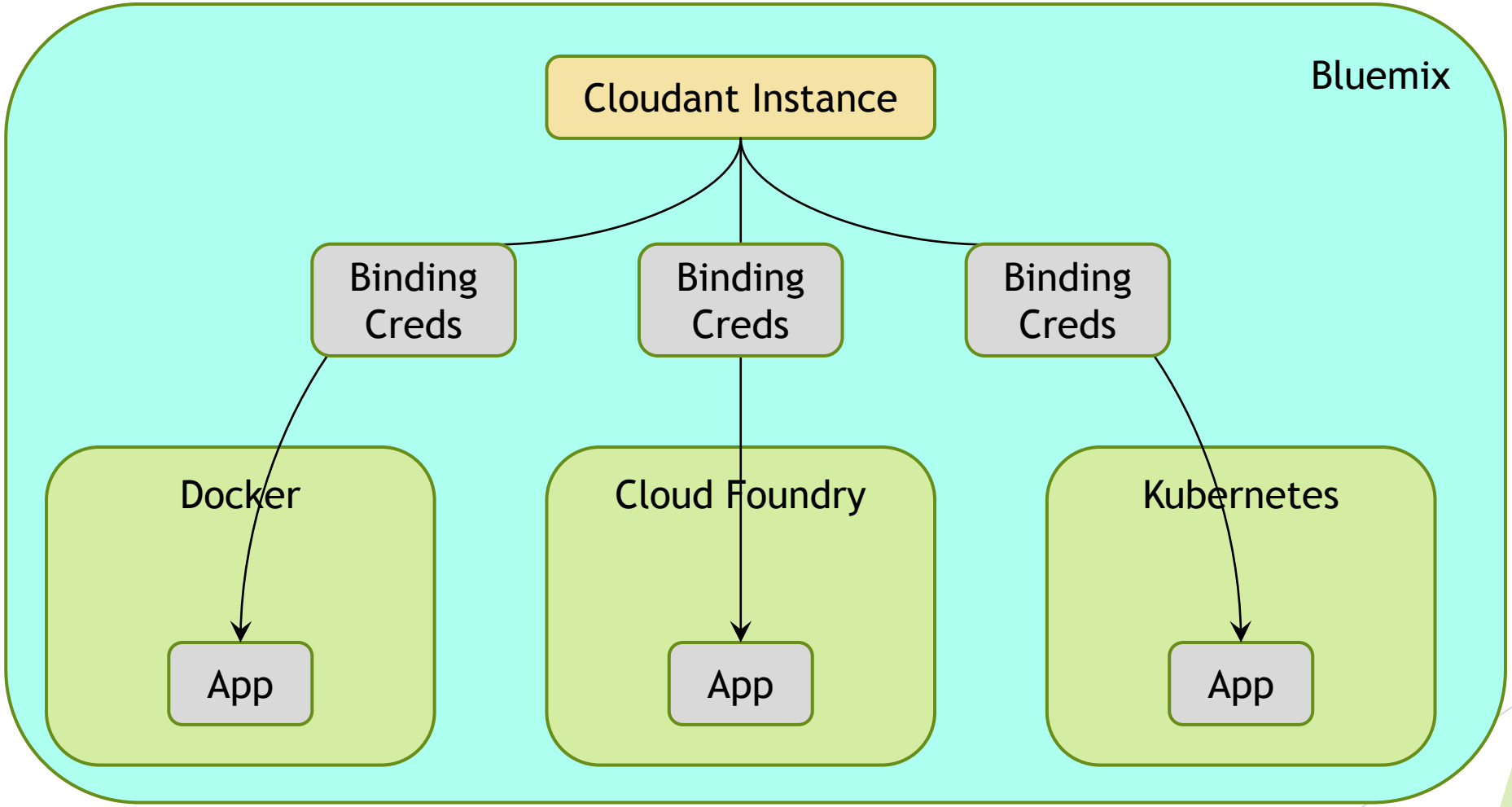
OSB API – Looking Forward

- Removing CF specifics in the spec
  - Org, space to be replaced with "context"
  - Define a Context Profile for each Platform
- Parameter Schemas
  - To define the shape of the "parameters"
  - Enables more advanced UI/presentation
- Enable additional Auth mechanisms
  - Beyond Basic Auth

OSB API – Looking Forward – Part Deux

- Define additional Service Lifecycle Actions
  - E.g. Backup/restore for DBs
  - Allow for Service specific extensions
- Allow for a more RESTful model – e.g. GET
- Allow all operations to be asynchronous
- Originating Identity

Demo


Bluemix
Cloudant Instance
Binding Creds
Binding Creds
Binding Creds
Docker
Cloud Foundry
Kubernetes
App
App
App

Get Involved

- Web Site: https://www.openservicebrokerapi.org/
- Github: https://github.com/openservicebrokerapi/servicebroker/
- Google Group: https://groups.google.com/forum/#!forum/open-service-broker-api
- Slack: http://slack.openservicebrokerapi.org/
- Weekly Calls (Tuesdays 12:30pm ET): https://github.com/openservicebrokerapi/servicebroker/wiki/Weekly-Call

Questions?

Thank You!