Concourse:

CI that scales with your project

Me

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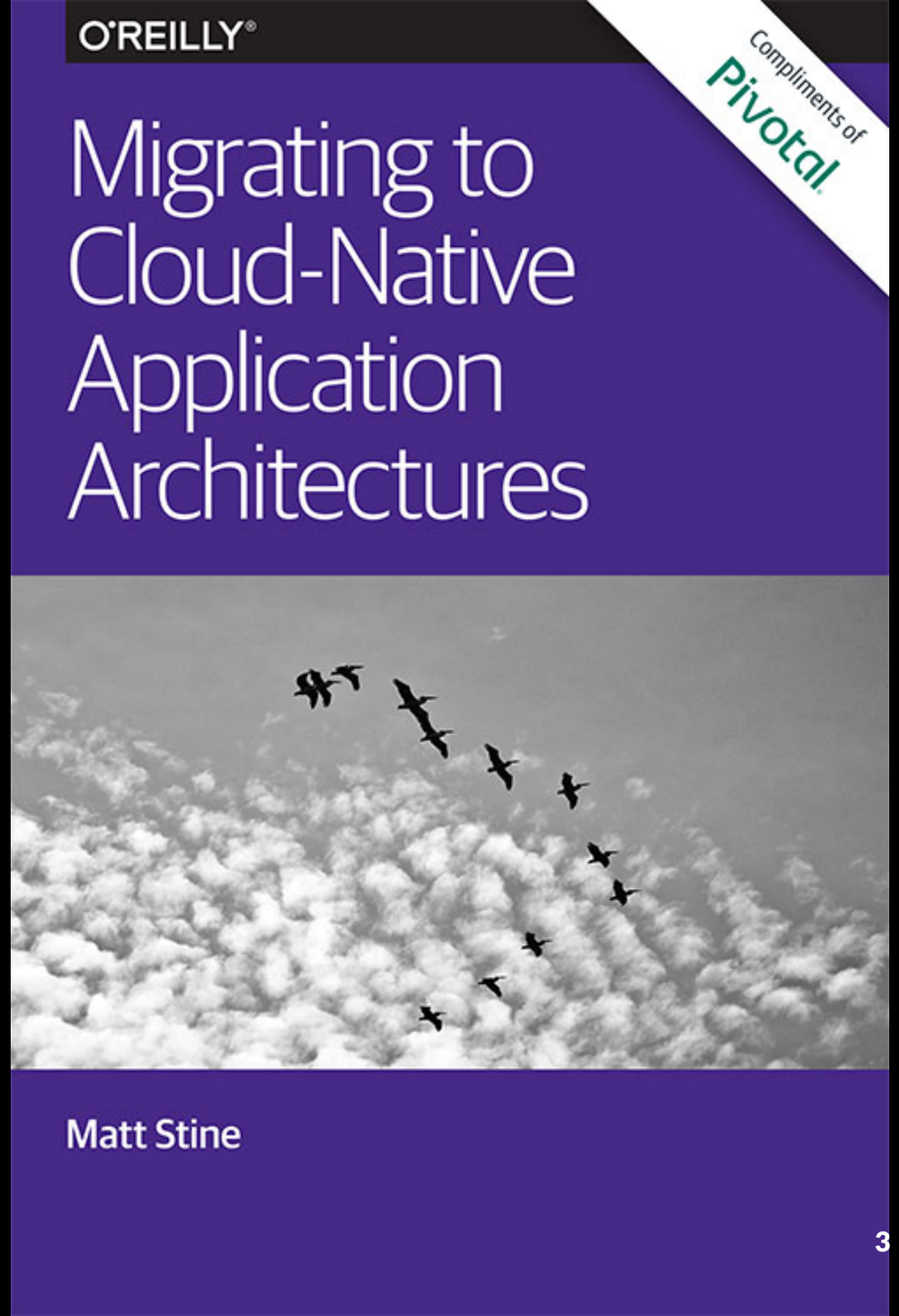
I wrote a little cloud book…

FREE - Compliments of Pivotal

http://bit.ly/cloud-native-book



Because the world needed another CI system...

O_o

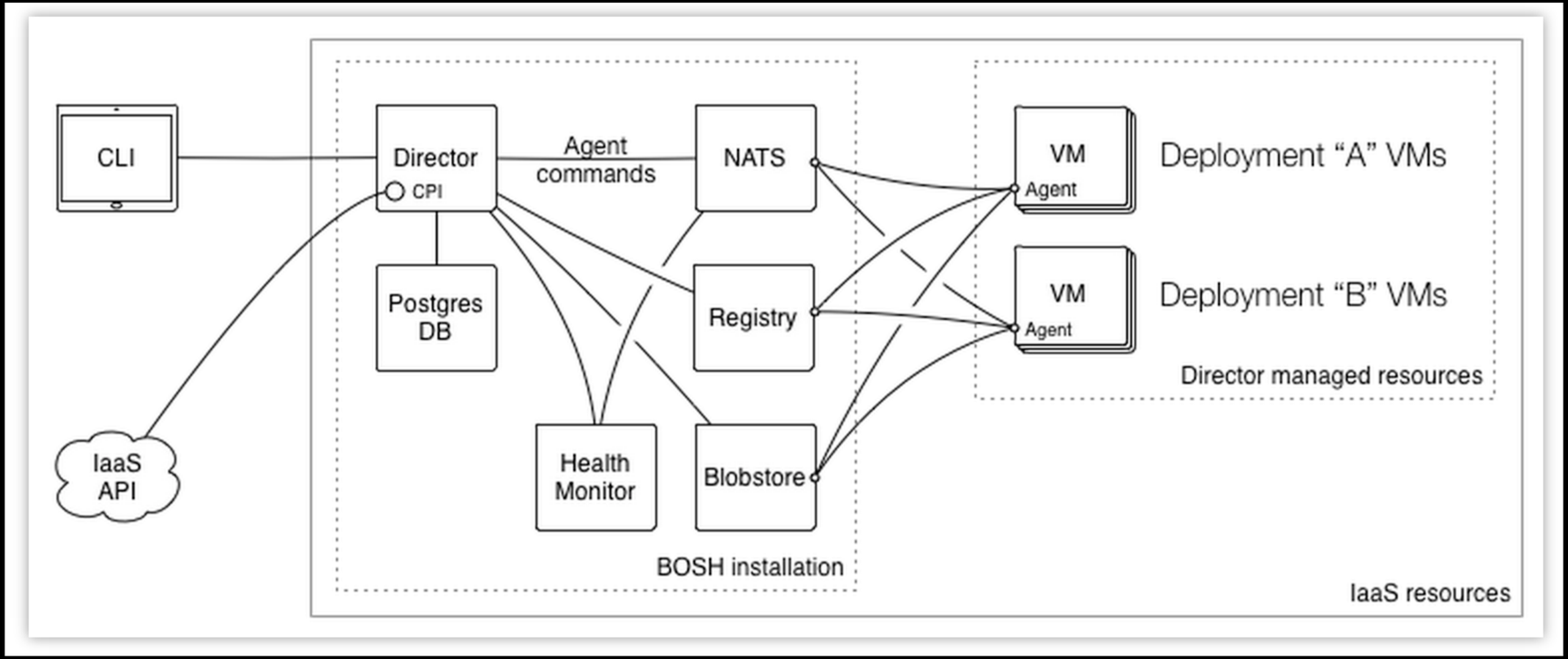
Why?

Simplicity

Usability

Build Isolation

Scalable/Reproducible deployment



http://bosh.io

Flexibility

Local Iteration

Concepts

Running Example:

- Consumer-Driven Contract Testing (http://martinfowler.com/articles/consumerDrivenContracts.html)
- Using Pact-JVM (https://github.com/DiUS/pact-jvm)
- Example Project (https://github.com/mstine/microservices-pact)

Tasks

execution of a script in an isolated environment with dependent resources made available to it

```
---
platform: linux
image: docker:///java#8
inputs:
- name: microservices-pact
  path: .
- name: foo-consumer-version
  path: .
params:
    TERM: dumb
run:
  path: ./gradlew
  args:
  - test
  - assemble
```

```
platform: linux
image: docker:///java#8
inputs:
- name: microservices-pact
  path: .
- name: pact
  path: .
- name: foo-provider-version
  path: .
params:
  TERM: dumb
  PACT_FILE: ./Foo_Consumer-Foo_Provider.json
run:
   path: ./gradlew
   args:
   - assemble
   - pactVerify
```

Resources

data: inputs/outputs

Can be…

- Checked
- Fetched
- Pushed

Git

```
- name: microservices-pact
  type: git
  source:
    uri: https://github.com/mstine/microservices-pact.git
```

S3 Bucket

```
- name: foo-consumer
  type: s3
  source:
    access_key_id: {{access_key_id}}
    secret_access_key: {{secret_access_key}}
    bucket: concourse-pact
    regexp: microservices-pact-consumer-.*.jar$
```

Semantic Versioning

```
- name: foo-consumer-version
  type: semver
  source:
    bucket: concourse-pact
    key: foo-consumer-version
    access_key_id: {{access_key_id}}
    secret_access_key: {{secret_access_key}}
    initial_version: 0.1.0
```

Cloud Foundry!

```
- name: pws-deploy
  type: cf
  source:
    api: https://api.run.pivotal.io
    username: {{pws_username}}
    password: {{pws_password}}
    organization: platform-eng
    space: concourse-demo
    skip_cert_check: false
```

https://github.com/concourse?query=resource

- pool
- git
- vagrant-cloud
- docker-image
- cf
- s3
- cf service-broker
- bosh-deployment
- bosh-io-release
- bosh-io-stemcell
- pivotal tracker
- archive (tgz)
- semver
- github-release
- time

Implement Your Own

http://concourse.ci/implementing-resources.html

Jobs

functions composed of behavior (tasks) and inputs/outputs (resources/other jobs)

Jobs Have Builds

- Success (all tasks succeed)
- Failure (any task fails)
- Can be accessed while running/shortly after finish (intercept/hijack)

Jobs Have Plans

- Sequence of steps to execute:
- *get* resources
- run things (*task*)
- *put* resources
- parallel or serial

Verify Pact (inputs)

```
- get: microservices-pact
  passed: [generate-pact]
  trigger: true
- get: foo-provider-version
  params: {bump: minor, pre: alpha}
- get: pact
  trigger: true
```

Verify Pact (function)

```
- task: verify-pact
  file: microservices-pact/microservices-pact-provider/task.yml
```

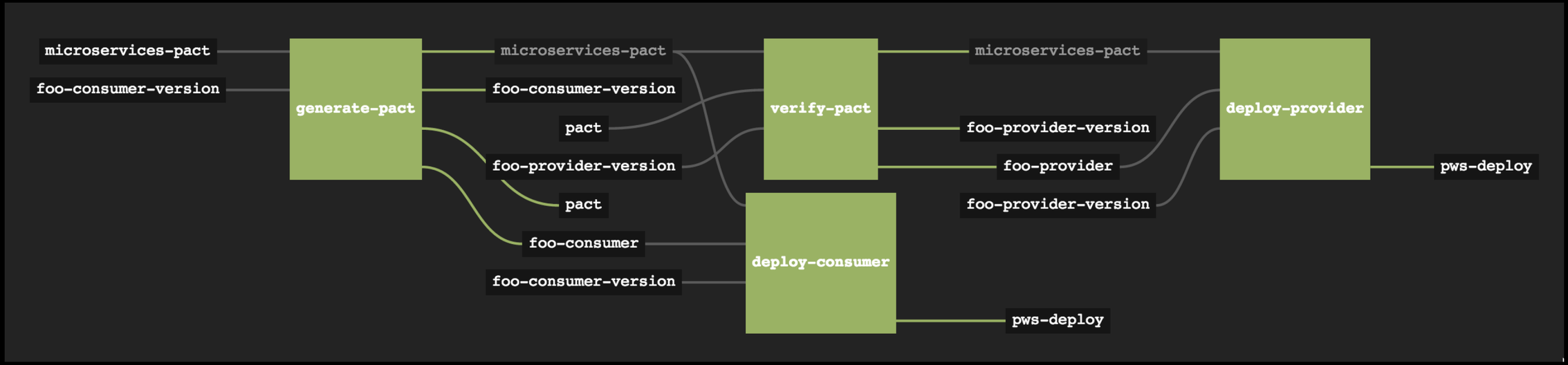
Verify Pact (task)

```
platform: linux
image: docker:///java#8
inputs:
- name: microservices-pact
  path: .
- name: pact
  path: .
- name: foo-provider-version
  path: .
params:
  TERM: dumb
  PACT_FILE: ./Foo_Consumer-Foo_Provider.json
run:
   path: ./gradlew
   args:
   - assemble
   - pactVerify
```

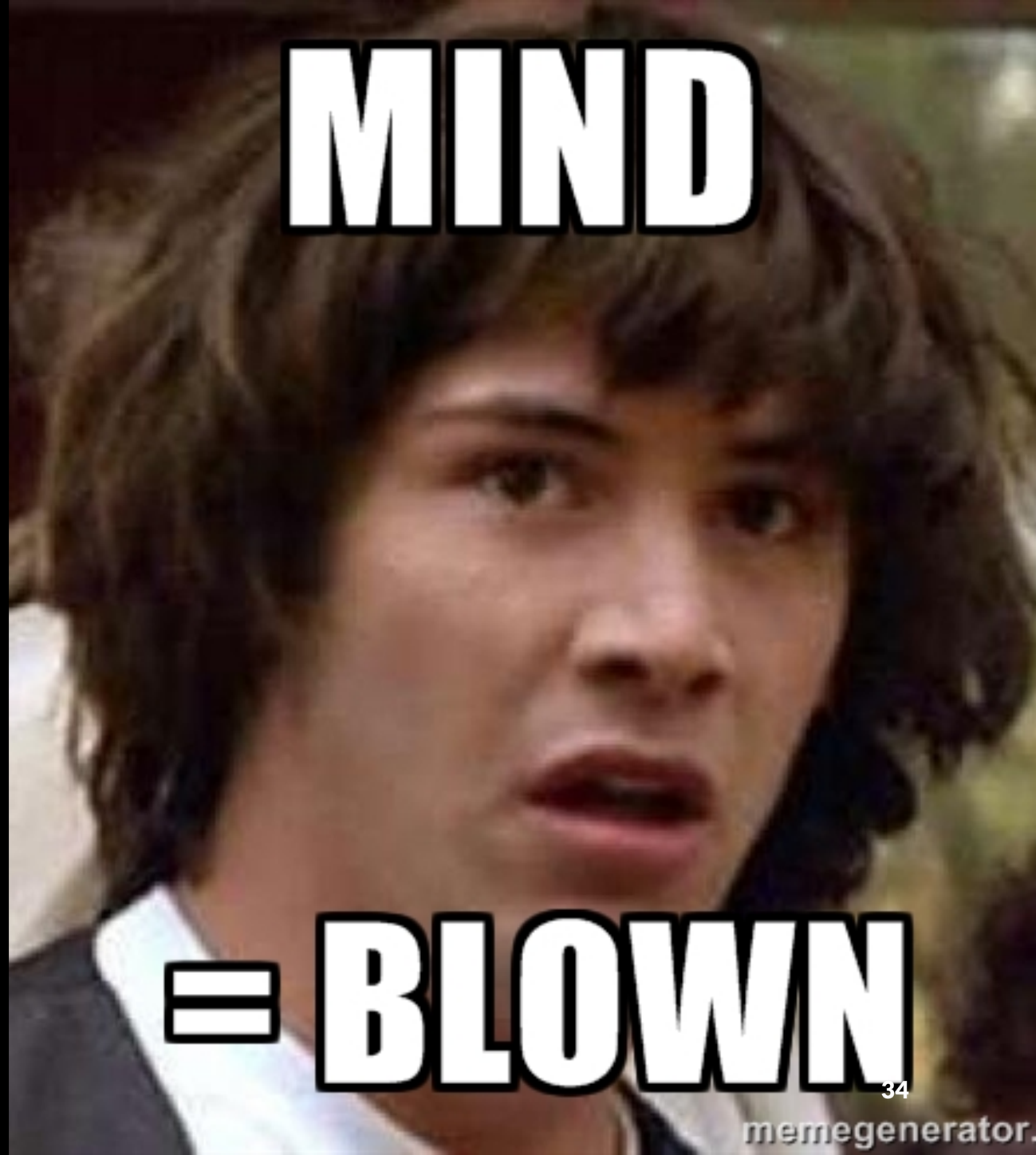
Verify Pact (outputs)

```
- put: foo-provider
  params: {from: microservices-pact-provider/build/libs/microservices-pact-provider-.*.jar$}
- put: foo-provider-version
  params: {file: foo-provider-version/number}
```

Pipelines



That's It



Learning to Fly

Getting Started

```
$ git clone https://github.com/concourse/concourse.git
$ vagrant init concourse/lite
$ vagrant up
```

http://192.168.100.4:8080

no pipelines configured

first, download the CLI tools:

cli:

then, use `fly configure` to setup your new pipeline

Let's do this...

```
jobs:
- name: hello-world
  plan:
  - task: say-hello
    config:
      platform: linux
      image: "docker:///busybox"
      run:
        path: echo
        args: ["Hello, world!"]
```

Ship It!

```
$ fly configure hello-world hello-world-pipeline.yml
```

hello-world

- pending
- started
- succeeded
- failed
- errored
- aborted
- paused

cli:

hello-world #1

started in a few seconds
succeeded in a few seconds
duration 9s

1

```
>_ say-hello
```

```
Hello, world!
```

Let's Play

Thanks!

Matt Stine (@mstine)

- *This Presentation:* https://github.com/mstine/nfjs_2015/tree/master/Concourse
- *Example Project:* https://github.com/mstine/microservices-pact
- *Concourse Website:* http://concourse.ci
- *Concourse Slack Team:* https://concourseci.slack.com