

PHOENIX SERVERS WITH PACKER.IO

BY NILS DE MOOR
@NDEMOOR

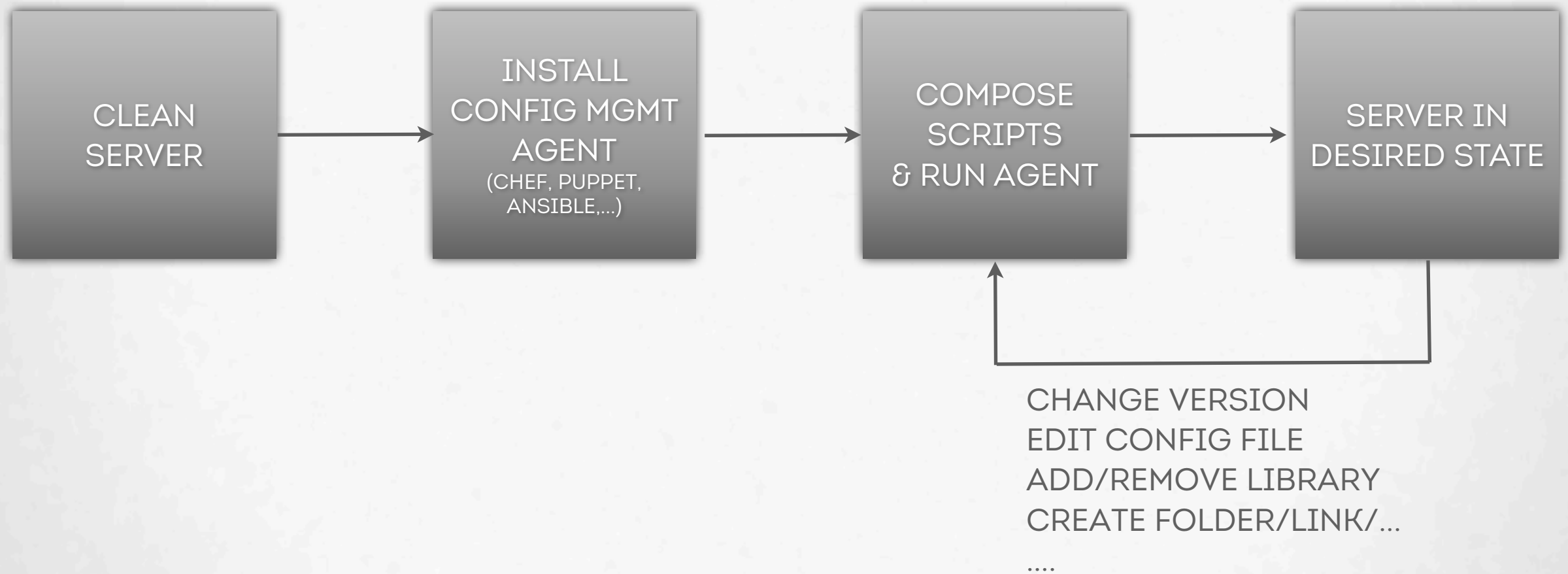


WE TEST EVERY BIT OF OUR SOFTWARE...

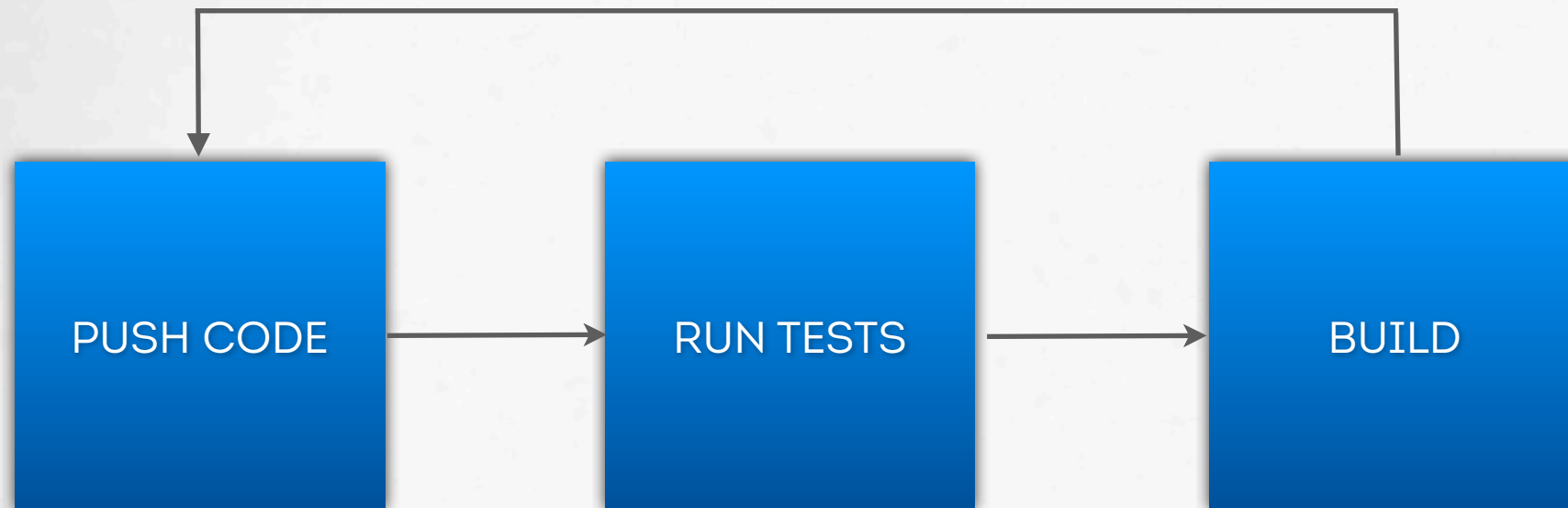
...SO WHY NOT TESTING OUR SERVERS



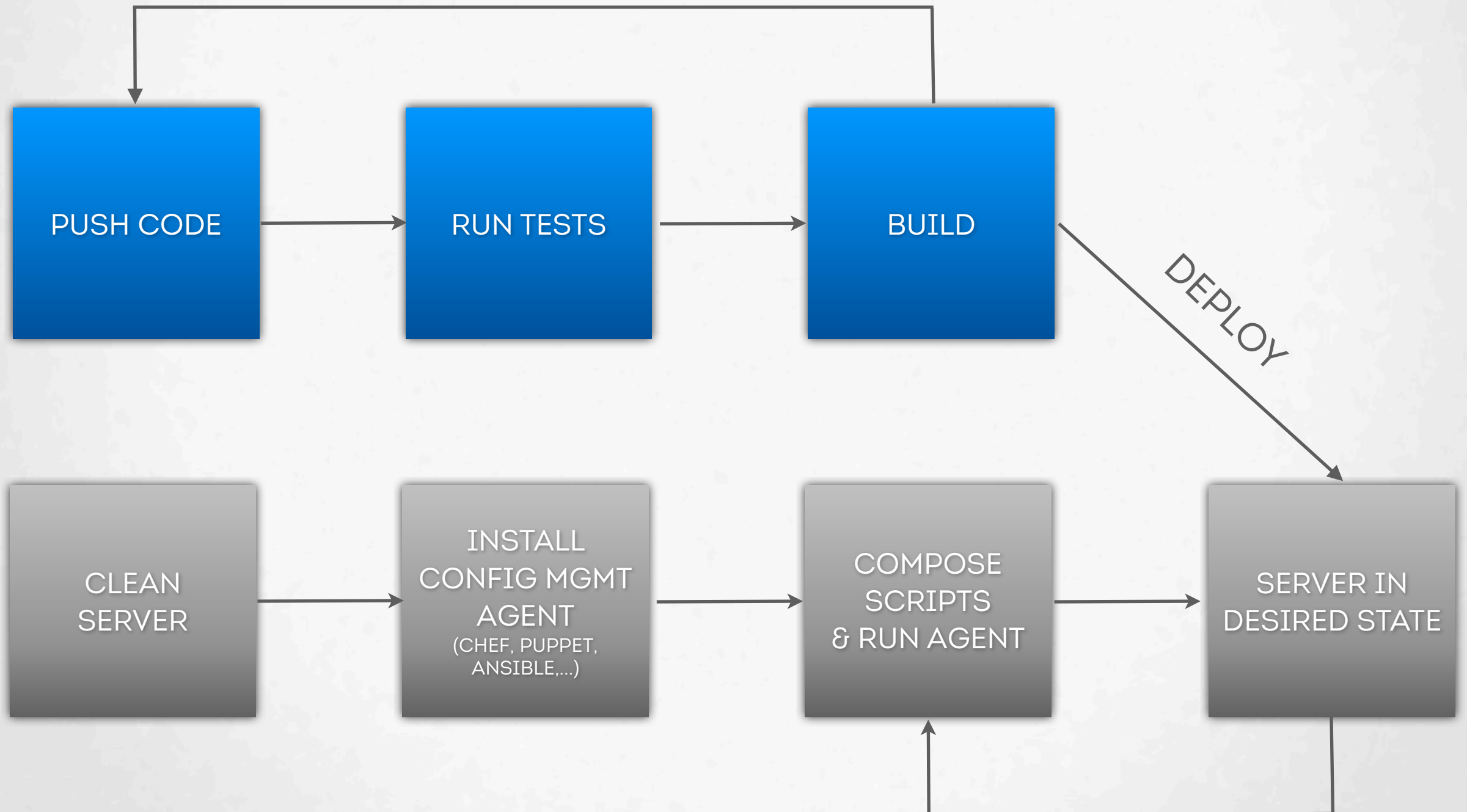
CONFIG MANAGEMENT



CONTINUOUS DEPLOYMENT



CONTINUOUS DEPLOYMENT



PITFALLS

WHAT IF...

- IDEMPOTENCE IS NOT GUARANTEED?
- NOT EVERY PIECE IS REMOVED ON DELETE?
- MY CONFIG SERVER IS DOWN?
- REPOSITORIES ARE UNAVAILABLE?
- AGENT WORKS LONG WHEN AUTOSCALING UP?



“THE RESULT IS A UNIQUE SNOWFLAKE.
GOOD FOR A SKI RESORT,
BAD FOR A DATA CENTER.”

MARTIN FOWLER



“A SERVER SHOULD BE LIKE A PHOENIX,
REGULARLY RISING FROM THE ASHES.”

MARTIN FOWLER



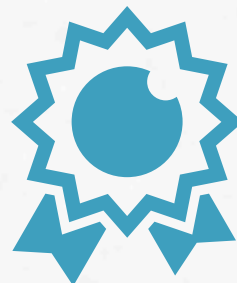
PACKING IMAGES

- APPLY CONFIG AGAINST BASE IMAGE
- BAKE NEW IMAGE OF FINAL STATE
- BOOT FROM FULLY OPERATIONAL IMAGE



BENEFITS

- PLATFORM AGNOSTIC
- SAME CONFIG TOOLS
- FRESH SERVER ON EVERY DEPLOY
- TESTABLE IMAGE
- TEST VS. PROD PARITY
- SERVER GROUP PARITY
- FASTER BOOT





“PACKER IS AN OPEN SOURCE TOOL FOR CREATING IDENTICAL MACHINE IMAGES FOR MULTIPLE PLATFORMS FROM A SINGLE SOURCE CONFIGURATION.”

MITCHELL HASHIMOTO
CREATOR OF PACKER AND VAGRANT

IN SHORT

- RUNS ON EVERY MAJOR OS
- CREATES IMAGES FOR MULTIPLE PLATFORMS...
- ... IN PARALLEL
- CHEF, PUPPET, ETC. TO CONFIGURE IMAGE
- EXTENDABLE THROUGH PLUGINS
- OPEN SOURCE (GO LANG), WELL-MAINTAINED



PACKER.JSON

- BUILDERS
- PROVISIONERS
- POST-PROCESSORS

BUILDERS

- CREATES MACHINES TO BUILD IMAGE
- SUPPORTED BUILDERS:
 - AMAZON EC2 (AMI)
 - DIGITAL OCEAN
 - OPENSTACK
 - VIRTUALBOX
 - VMWARE
 - CUSTOM
 - ... THE LIST IS GROWING

PROVISIONERS

- INSTALLS AND CONFIGURE SOFTWARE
- SUPPORTED BUILDERS:
 - SHELL SCRIPTS
 - FILE UPLOADS
 - CHEF SOLO
 - PUPPET MASTERLESS
 - SALT
 - (PULL REQUEST PENDING FOR ANSIBLE LOCAL)
 - CUSTOM
 - ... THE LIST IS GROWING

POST-PROCESSORS

- POST-PROCESSING ON THE IMAGE
- COMPRESSING, UPLOADING BUILDS, ETC.
- SUPPORTED BUILDERS:
 - VAGRANT
 - CUSTOM

DEMO APP

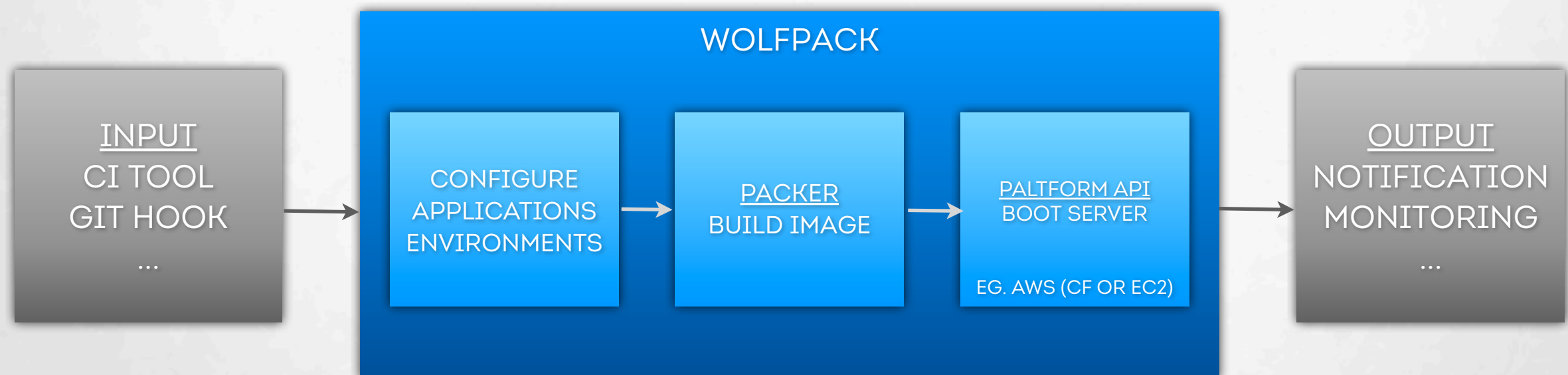
- BUILD AMI IMAGE
- PROVISION SOFTWARE
- INSTALL AND RUN APPLICATION

SOURCE: GIT CLONE [HTTPS://GITHUB.COM/NDEMOOR/PACKER-IO-DEMO](https://github.com/ndemoor/packer-io-demo)



WOLFPACK

- DEPLOYMENT UI
- BUILT ON TOP OF PACKER
- SUPPORTS AWS API
- INPUT/OUTPUT API
- OPEN SOURCED BY END 2013



Create new Environment for SocketGen

Name

Type something...

Branch

Type something...

EndPoint

Type something...

Access Key Id

Type something...

Access Secret

Type something...

Region

US-EAST-1

Create Environment

```
{
  "dependsOn": "environment"
},
"cfParams": {
  "description": "Parameters",
  "value": [
    {
      "key": "Environment",
      "default": "tester"
    },
    {
      "key": "InstanceAMI",
      "default": "ami-7341101a"
    },
    {
      "key": "KeyName",
      "default": "woo-key"
    },
    {
      "key": "InstanceType",
      "default": "m1.small"
    }
  ]
},
"type": "object",
"dependsOn": "environment"
},
"latest_deploy": {
  "description": "Last deployed at Tue Oct 08 2013 08:24:03 GMT+0200 (CEST), ami id was : undefined",
  "value": "",
  "type": "string",
  "editable": false,
  "dependsOn": "environment"
}
}
```

Load CloudFormation Template and Params from the location provided

Deploy cloudformation

Deploy

QUESTIONS?



FEEDBACK OR REMARKS?

@NDEMOOR

REFERENCES

- PACKER.IO

[HTTP://WWW.PACKER.IO/DOCS](http://www.packer.io/docs)

- MARTIN FOWLER

[HTTP://MARTINFOWLER.COM/BLIKI/PHOENIXSERVER.HTML](http://martinfowler.com/bliki/PhoenixServer.html)

[HTTP://MARTINFOWLER.COM/BLIKI/IMMUTABLESERVER.HTML](http://martinfowler.com/bliki/ImmutableServer.html)

[HTTP://MARTINFOWLER.COM/BLIKI/SNOWFLAKESERVER.HTML](http://martinfowler.com/bliki/SnowflakeServer.html)