

# Using PaaS to Iterate on DevOps

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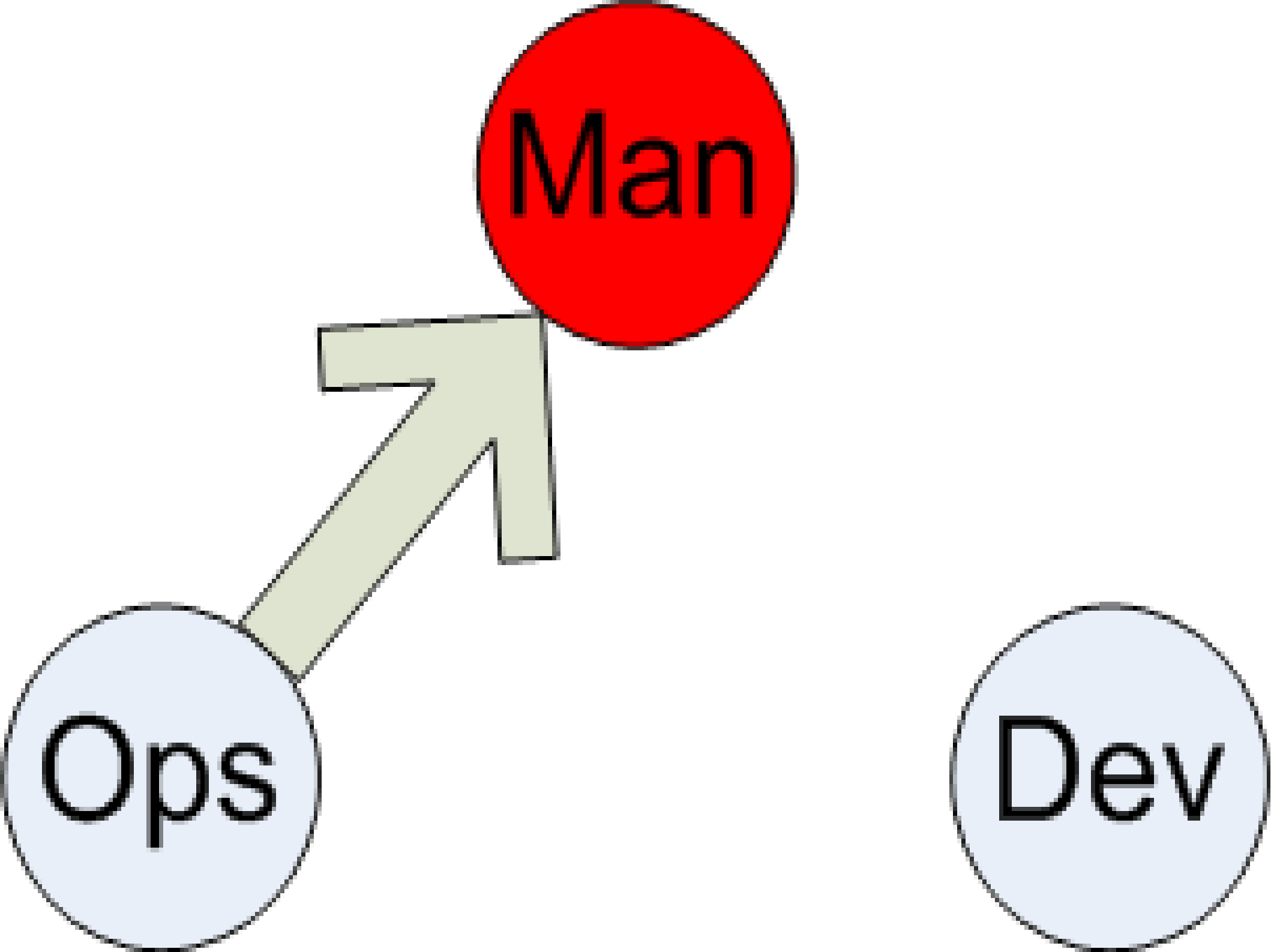
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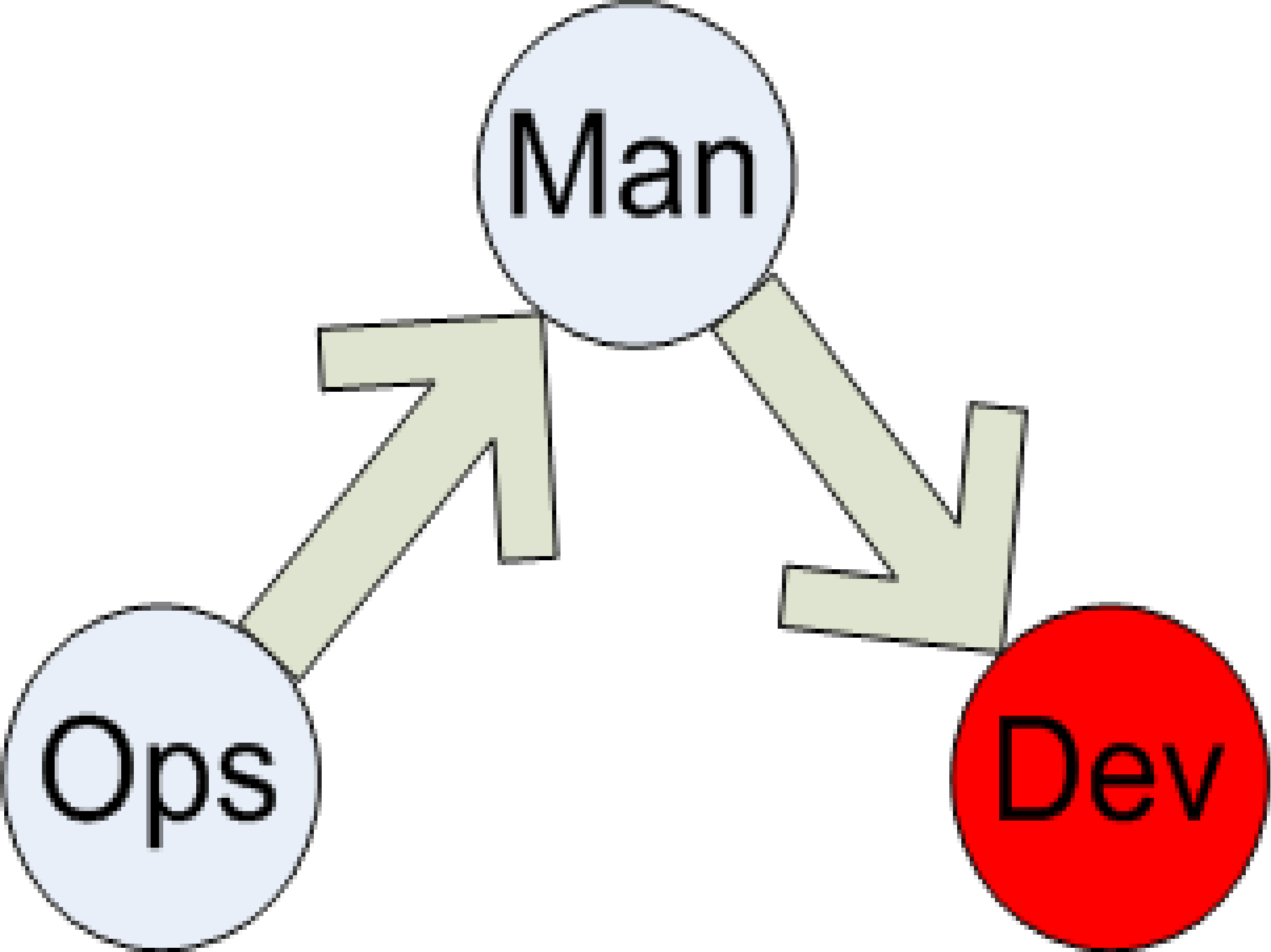


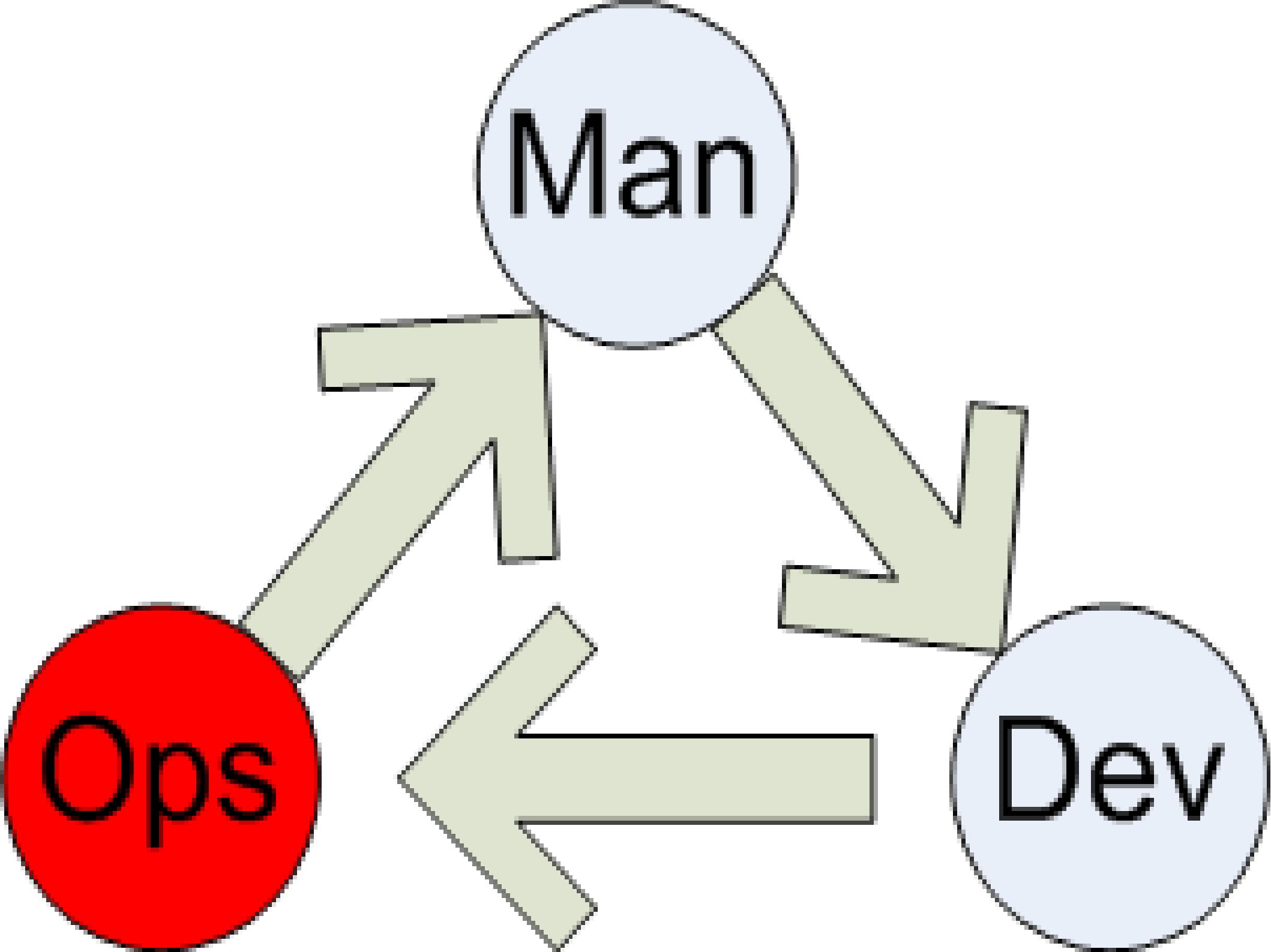


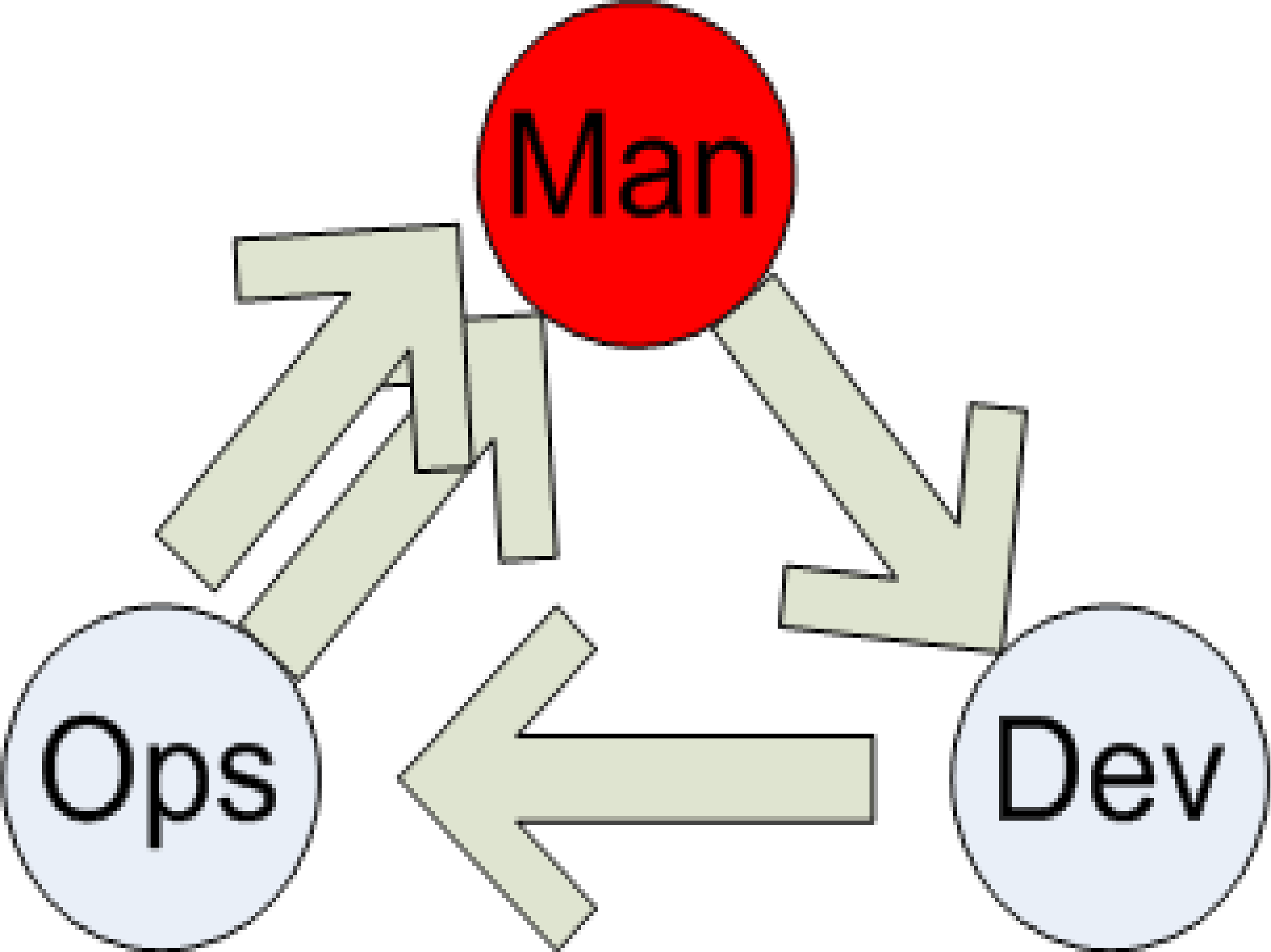




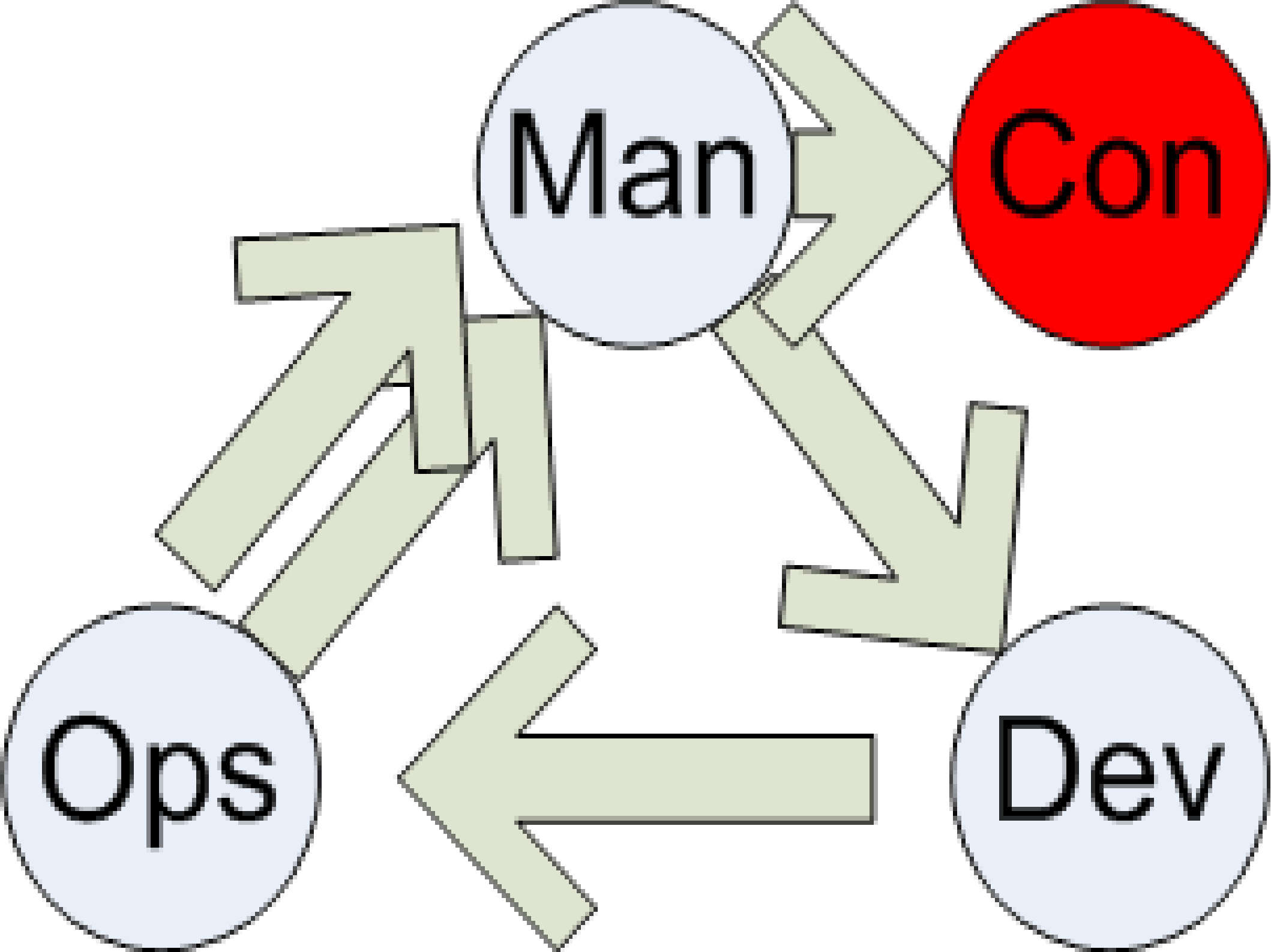


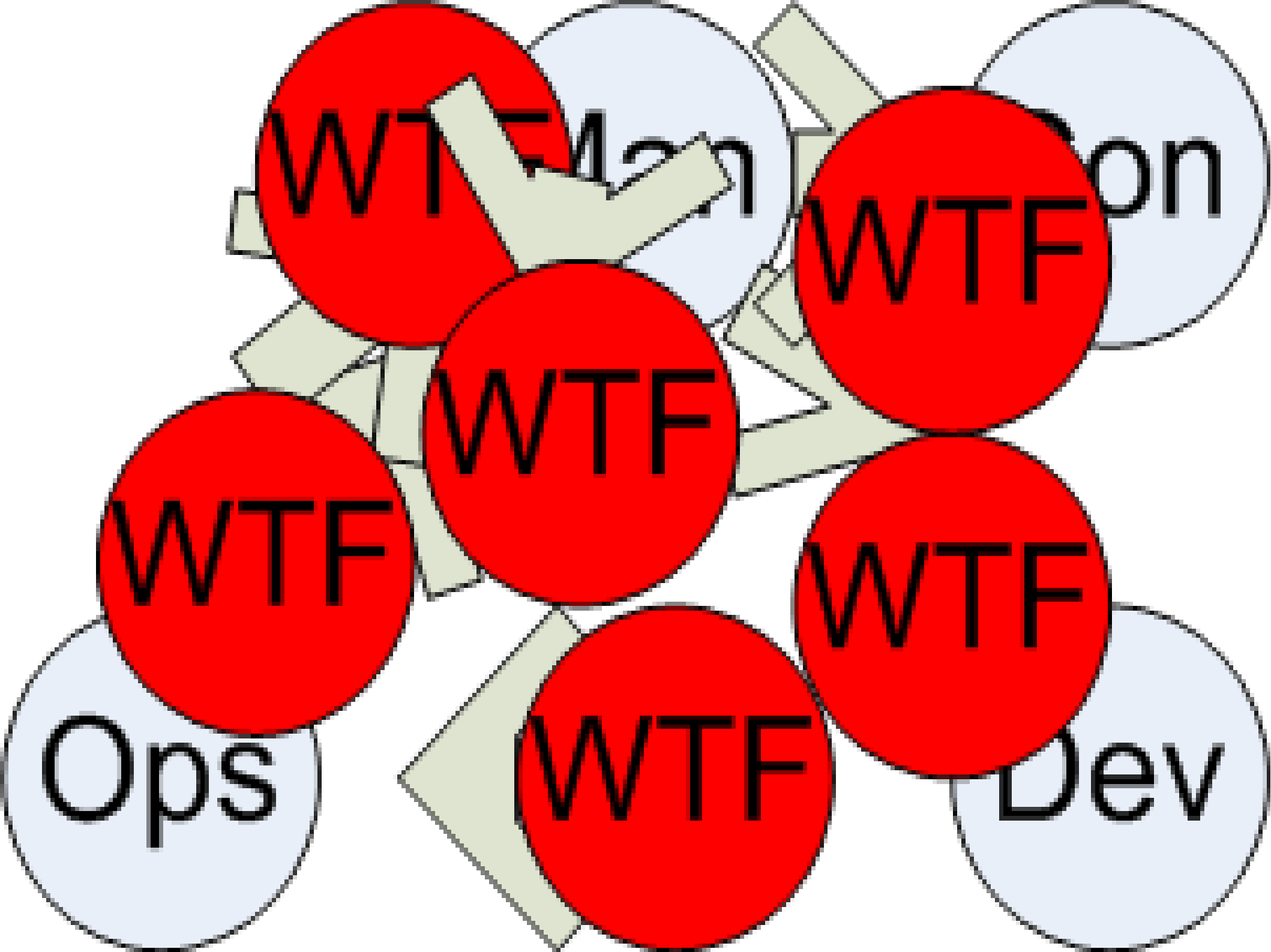












So Colin...  
what is  
PaaS?



The thing that runs your  
applications.

You've been making them for  
years!

Not magical.  
Not terrifying.  
What we do.

Extension of the principles of IaC:

Servers are ephemeral

Services are permanent

Change the focus to the services:

Shift to PaaS

Does PaaS mean I don't need an operations team?



# No-ops?



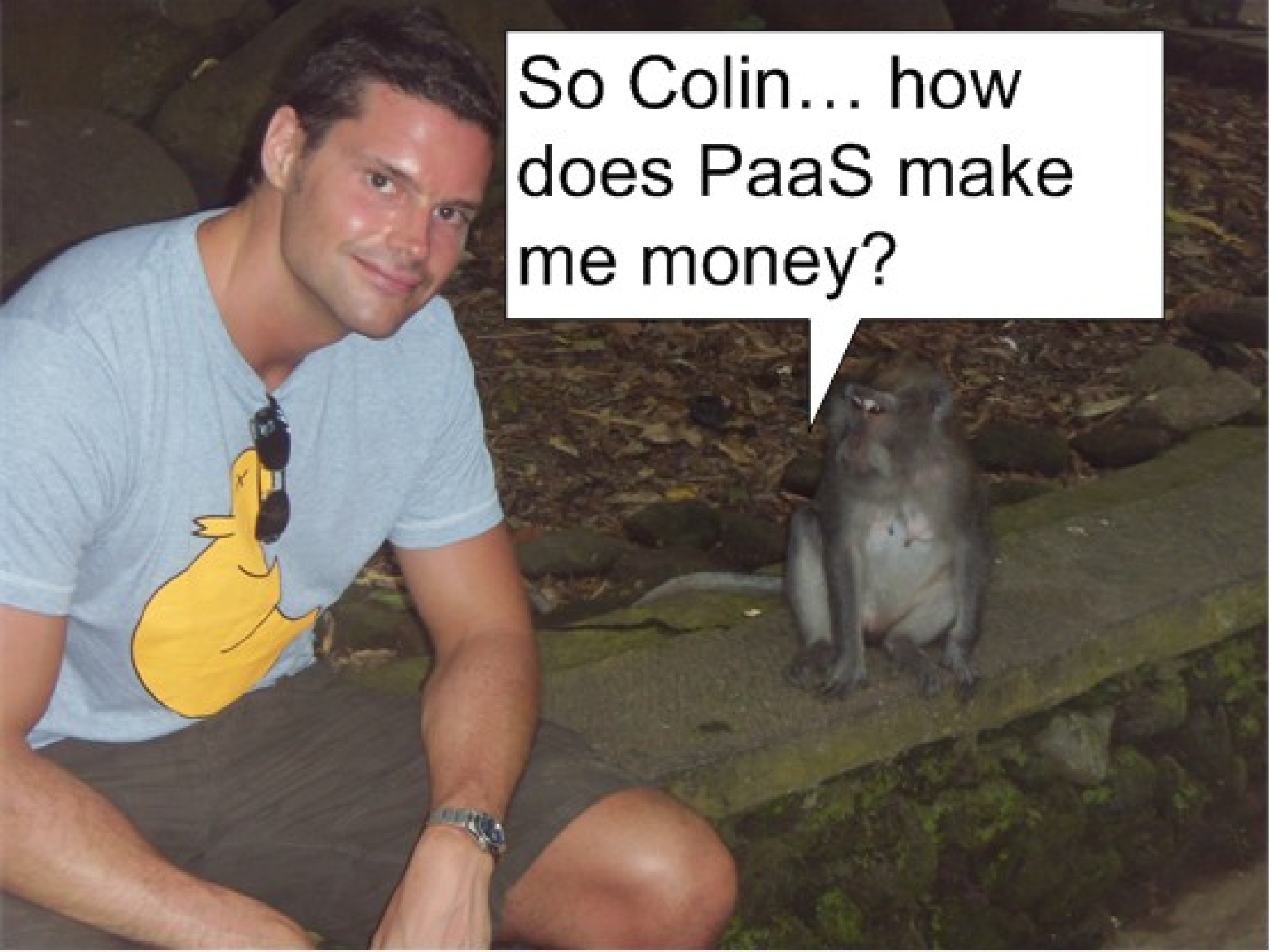
# No-devs?



No-*thing*?

Only do things that make you  
money

So Colin... how  
does PaaS make  
me money?

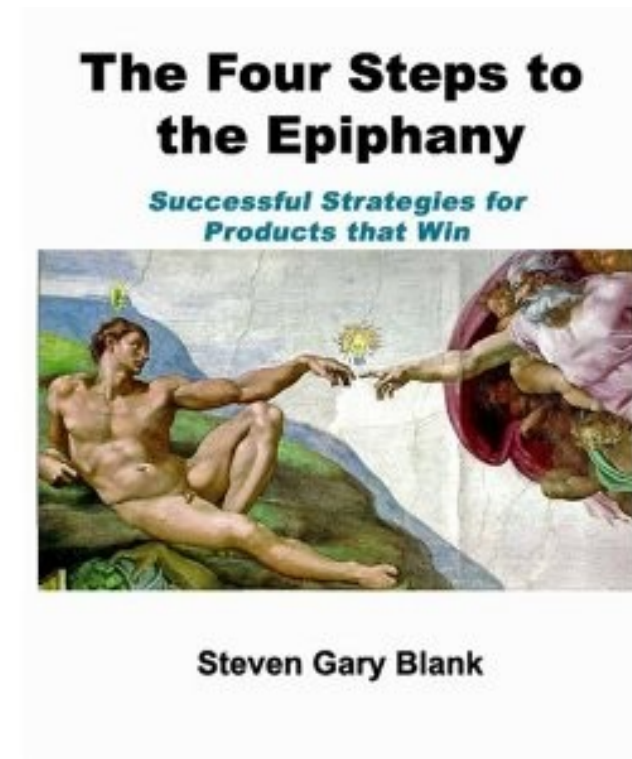


Culture:  
it's all about validating knowledge

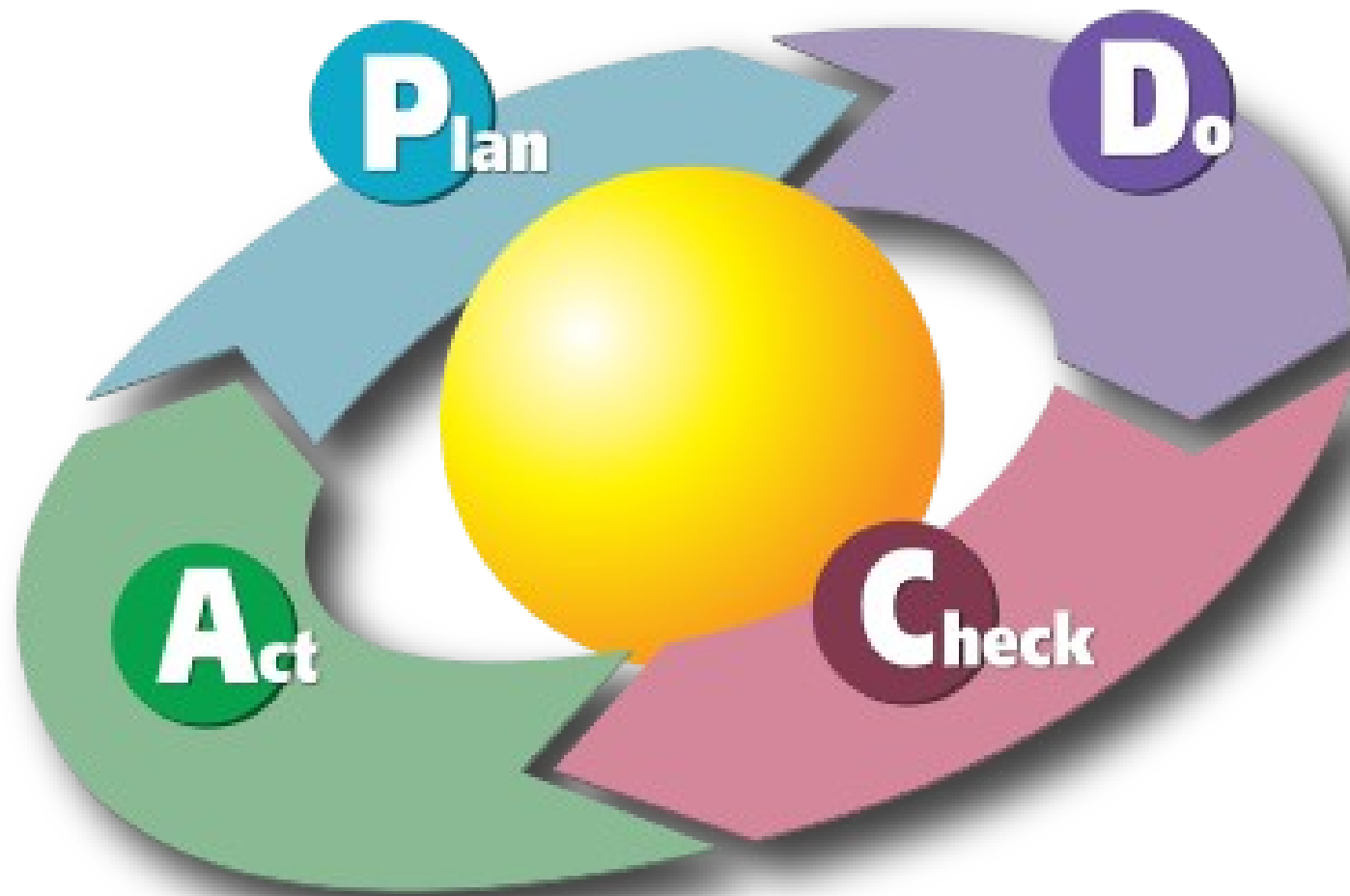
Get meaningful feedback fast  
about your app/service

Stop wasting time - MTTV

# Fast feedback



Get the MVP out and iterate





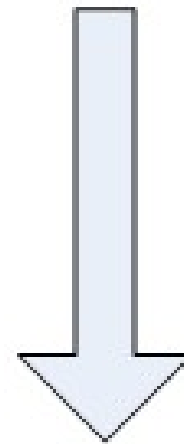
Get your pipeline deploying early!

Borrow someone else's platform  
until you need your own

**Software  
as a Service**

**Platform  
as a Service**

**Infrastructure  
as a Service**

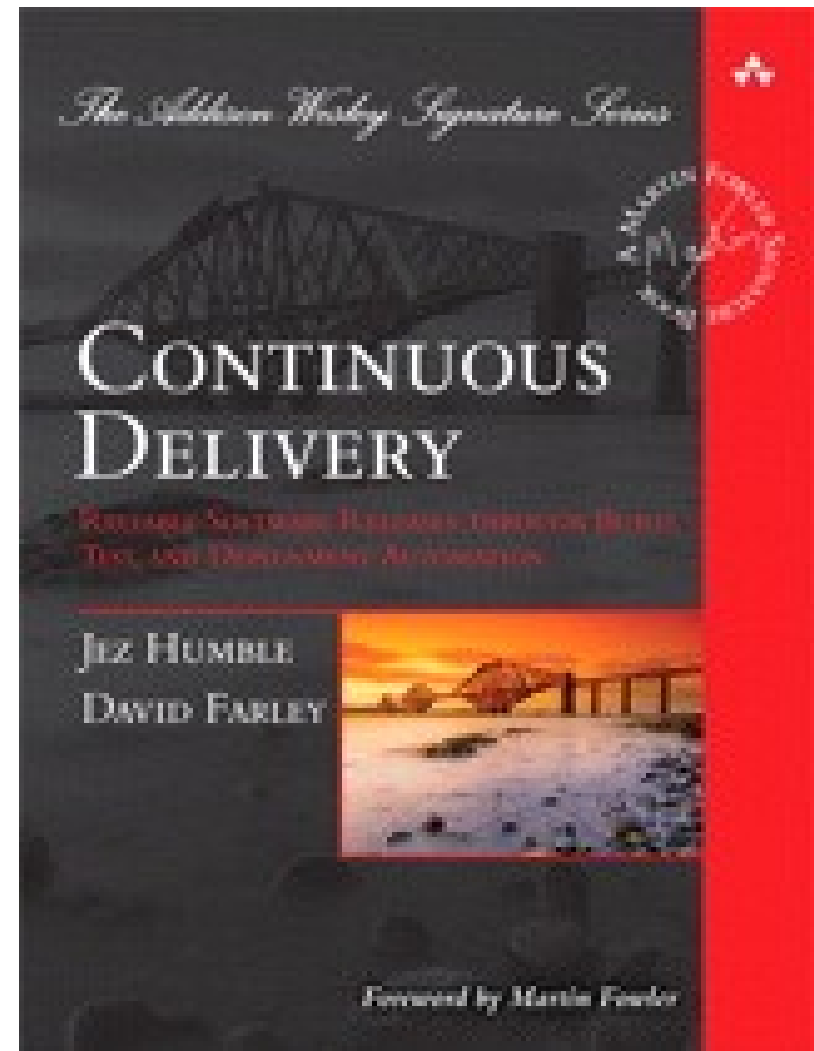


**Pull**

PaaS takes you a long way with little effort  
(I AM *VERY* LAZY)  
Get the goodness without the work

# Continuous Delivery

- Blue-green deployments
- Self-service deployments
- Automate provisioning
- Production-like environments
- Quick walking skeleton



# The Twelve-Factor App

- <http://www.12factor.net/>
- Stateless processes
- Port binding
- Scale out via processes
- Disposability
- Dev-prod parity



So  
Colin...  
which  
PaaS  
should I  
use?

Open vs Closed

Why restrict your future  
capabilities with a closed-source  
PaaS?



## New Message

Cancel

To: paascustomer

I love heroku

heroin x

Send

Q W E R T Y U I O P  
A S D F G H J K L  
↑ Z X C V B N M ↵  
. ? 123 space return

# Don't use Heroku!

(Although it's great)

- Devs need to get things done quickly  
They grab a credit card => Heroku!
- Don't block them, enable them!
- Deploy to Appfog/Openshift etc.
- Move to a local/customised PaaS later

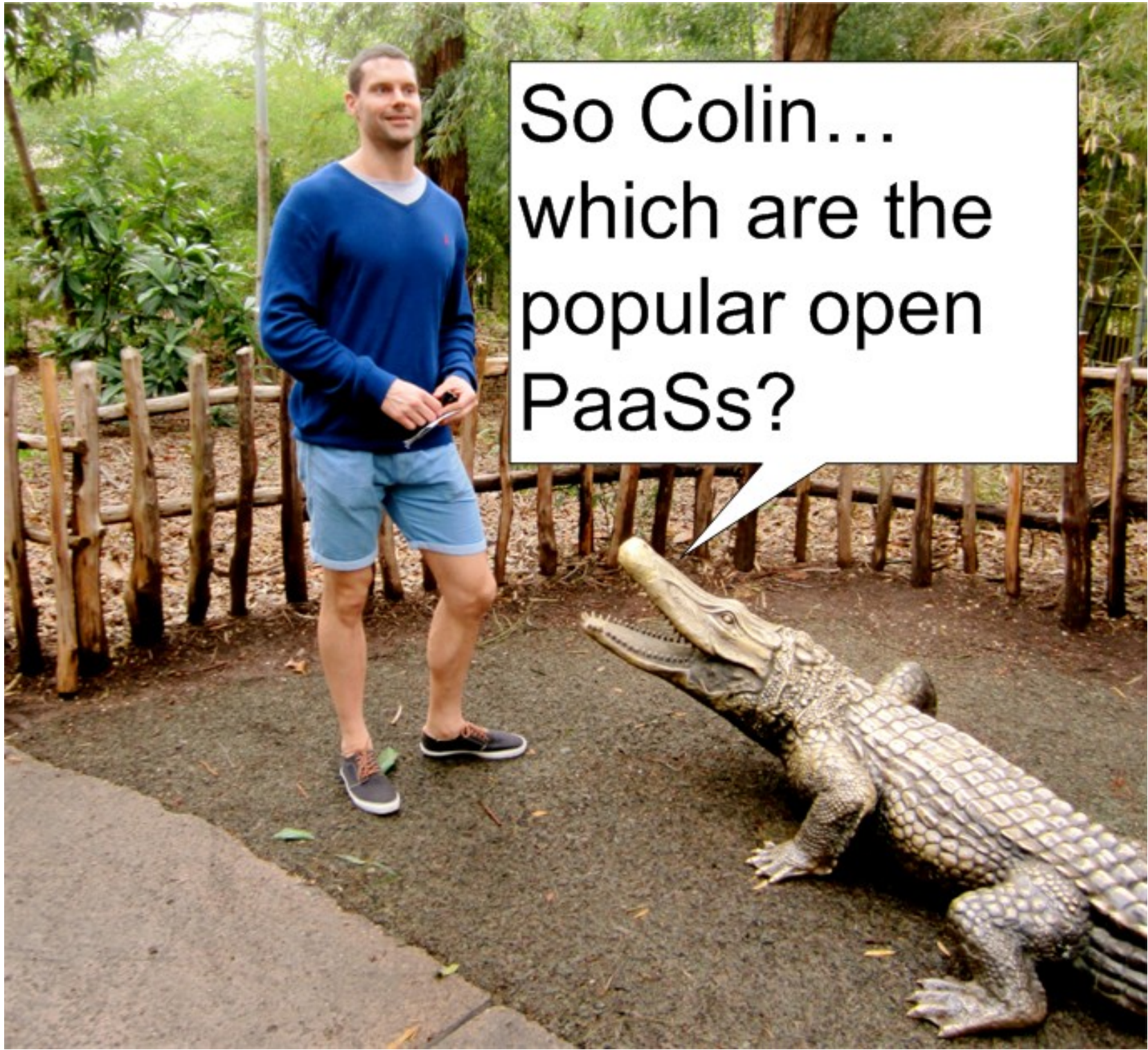
Compliance/security/  
performance/functionality

Be able to take control!

Culture - don't be a barrier:  
be an enabler

Provide, customise, and iterate a  
platform for your services

Open PaaS is like a Rails  
scaffold for platforms:  
get it out quick, customise later

A man in a blue V-neck sweater and light blue shorts stands on a paved path next to a crocodile. The crocodile is on the path, facing the man with its mouth open. A wooden fence is in the background, and there are trees and bushes. A speech bubble points from the crocodile's mouth towards the text.

So Colin...  
which are the  
popular open  
PaaSs?

# Cloud Foundry

- Pivotal (VMWare)
- Heroku compatible buildpacks
- Java, Ruby, Node
- MySQL, Postgres, Redis, MongoDB etc
- CF gem deployments



# Cloud Foundry Reality

- Ruby + Go + Java
- Containers (warden)
- Most mature open PaaS
- Excellent, but complex architecture
- Some interesting(!) ruby, getting better
- BOSH is the future



# OpenShift

- RedHat
- Java, Ruby, Node, Python, PHP and more
- MySQL, Postgres, MongoDB
- Deployment via Git





# OpenShift Reality

- Ruby + bash
- Containers (docker/lxc)
- MCollective firing scripts
- Immature compared to CF
- Easier to learn than CF
- Very easy to add simple services
- Shows RedHat legacy

So Colin...  
what have you  
done with open  
PaaS?



Event-sourced,  
eventually consistent,  
financial application.

Pipeline of microapps.

Had a PoC deployed to CF.com  
on first day

Fast, meaningful feedback

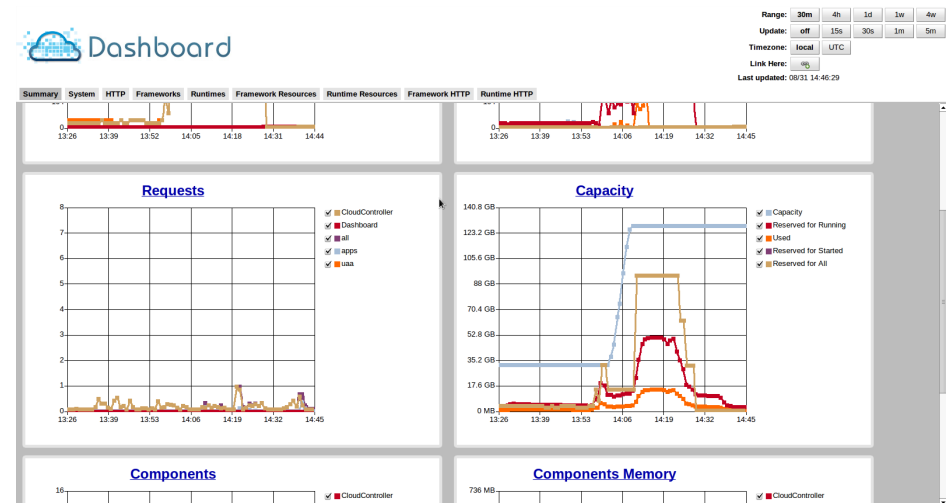
# Tools used to customise our PaaSes

- Jenkins
- Chef
- BOSH
- Cucumber
- Vagrant



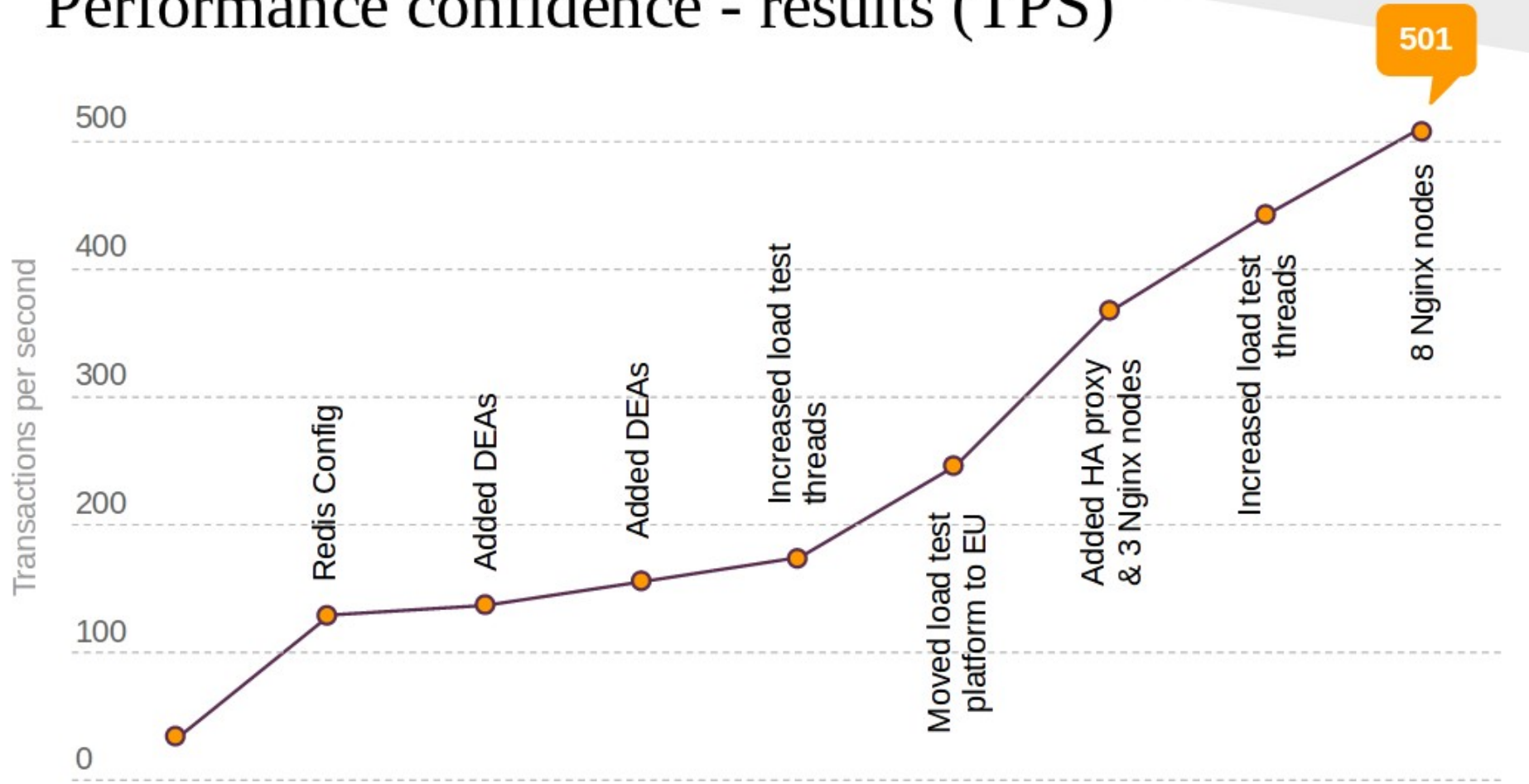
# Monitoring sux

- CF dashboard
- Graphite/Statsd
- Logstash/Kibana for app logs
- Graylog2 for CF/OS logs
- Nagios for alerting



# Performance tuning: it's just like a normal platform!

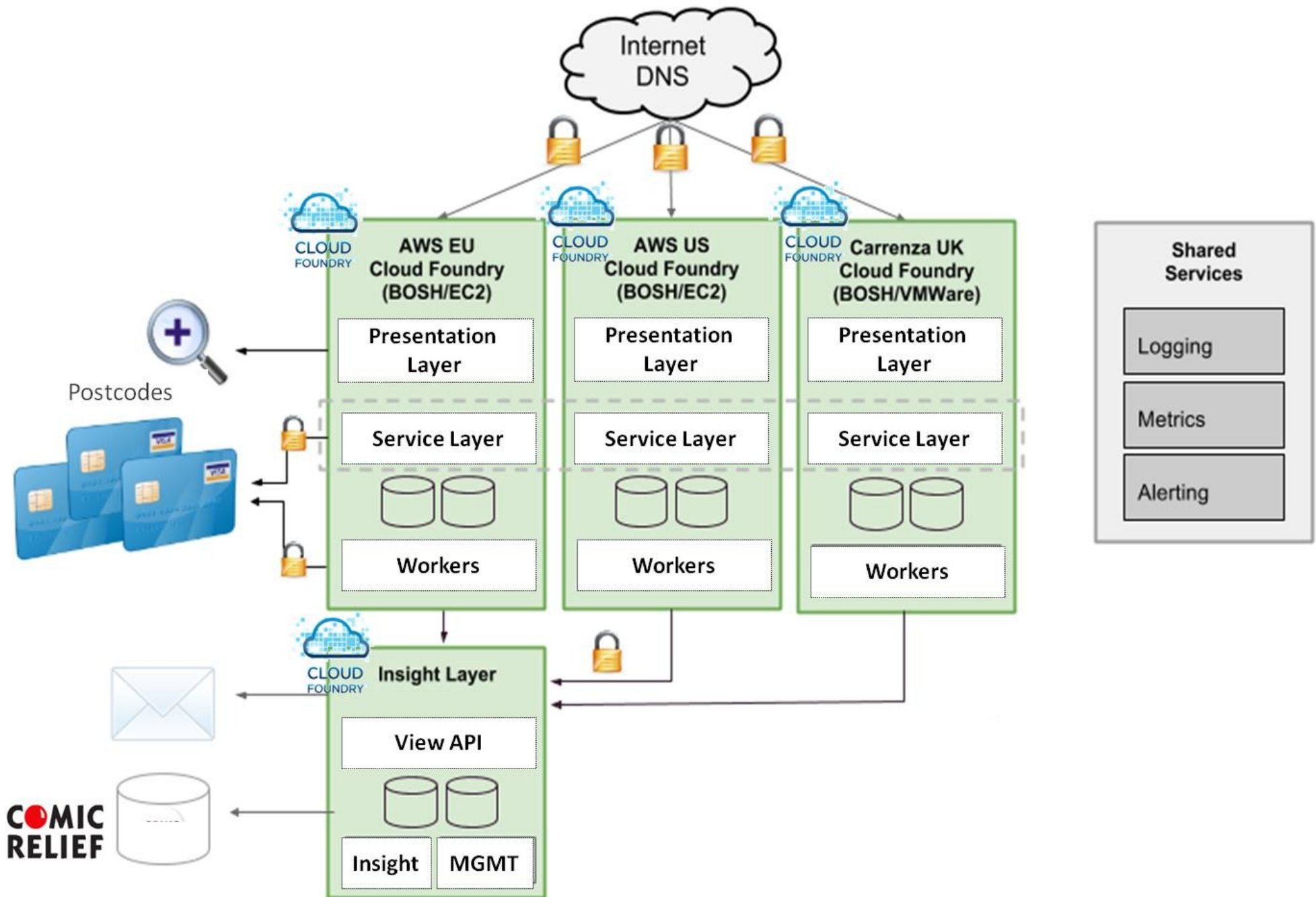
Performance confidence - results (TPS)



Add data components as  
required


Started with Redis,  
then MongoDB,  
then PostgreSQL





6 people  
5 months  
Feedback from day 1  
Continuous value

First time with no downtime  
£75 million taken in 6 hours

A photograph of a man with glasses and a brown jacket standing next to a statue of St. Peter. The statue is wearing a bright yellow raincoat and holding a large grey fish. They are in an outdoor fish market setting with buildings and other people in the background.

So Colin... if  
you've been  
using this in  
anger, what's  
gone wrong?

# Cloud Foundry Deployment - BOSH

```
E, [2012-08-31T11:52:38.553423 #16523]  
[task:97] ERROR -- :  
can't use multiple availability zones:  
eu-west-1a, eu-west-1a
```

# WAT

# OpenShift Operations

```
hato@tosh ~/vcs/presentation $ rhc domain show -l
...
Application Info
=====
presentation
    Framework: ruby-1.9
    Git URL:
ssh://ba0674d1fd392f8281b9186cf86986dc@presentati
on.rhcloud.com/~/.git/presentation.git/
    Embedded:
        mysql-5.1 - Connection URL:
mysql://127.8.96.129:3306/
        mongodb-2.0 - Connection URL:
mongodb://127.8.96.129:27017/
```

SSH? PaaS or IaaS?



So Colin...  
how do I get  
involved?

A challenge!  
Scientific method:  
let's acquire some knowledge  
as a community

Hypothesis:  
going from nothing to a deployed  
“Hello World” application will take  
less time using a PaaS than your  
current IaC solution



# Test:

- Set up an account with one of:  
run.pivotal.io  
anynines.com  
openshift.com
- Have a quick play to familiarise yourself with their client tools
- Time how long it takes to deploy your “Hello World” app

eg. run.pivotal.io  
cf login  
cf push  
<answer questions>

Now try the same thing with your  
laC solution

eg. Chef

Create basic networking in IaaS provider

Use knife to bootstrap nodes

Converge the nodes

Add additional IaaS networking

Point some DNS at something

Analysis:

Send me your MTTV!

@hatofmonkeys

[colin@hatofmonkeys.com](mailto:colin@hatofmonkeys.com)

I will aggregate the results and publish

Summary:  
test if PaaS works for you

Thank you

@hatofmonkeys  
colin@hatofmonkeys.com

Please talk to me!