MODERN DEVELOPMENT WORKSHOP

Modern
Development
Workshop

Pivotal CF

Overview for PCF Immerison

Agenda

What we will see today

1

Evolution

Of Cloud Architectures

2

Demo

Pivotal CF Live

3

Industry Trends

Driving Enterprises Today

4

Cloud Foundry

The OSS Community

5

Pivotal CF

Enterprise Cloud Foundry

6

Case Studies

Who’s Using It?

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Evolution of Cloud Architectures

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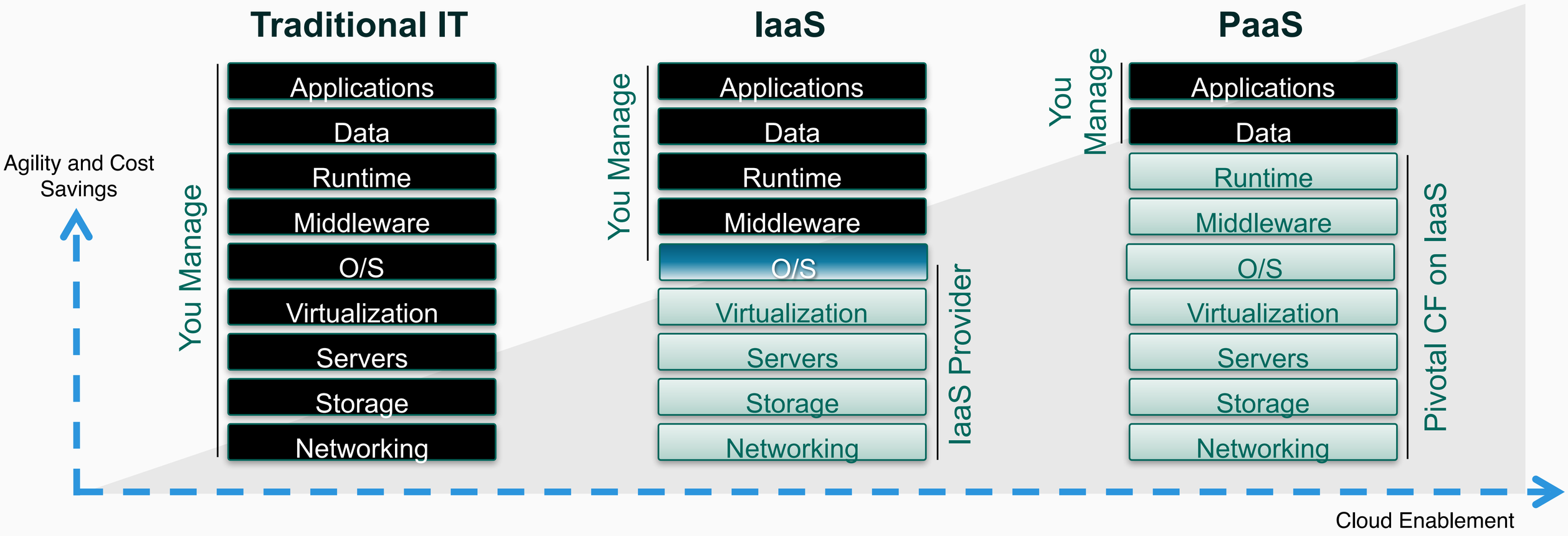
The Power of PaaS

The “It Just Works” Experience



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Deploying an Application

IaaS v. PaaS

amazon web services™

- Provision VM
- Install Application Runtime
- Deploy Application
- Configure Load Balancer
- Configure SSL Termination
- Configure Service Connectivity
- Configure Firewall

Pivotal CF™

- cf push

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Scaling an Application

IaaS v. PaaS

amazon web services™

- Provision New VM
- Install Application Runtime
- Deploy Application
- Configure Load Balancer / Update Route
- Configure Service Connectivity
- Configure Firewall

Pivotal CF™

- cf scale

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Industry Analysts

What do they think?

"IaaS without PaaS capabilities becoming a dying breed.

In 2014…IaaS providers with no PaaS services…and no ecosystem of developers will go the way of the dodo bird."

IDC
Analyze the Future

"The single most powerful thing you can do this year is to enable your developers with a fast and flexible PaaS.

Cloud Foundry fits the bill nicely, and the ease of deployment is the same whether you're deploying a Node.js prototype or a Java project with scads of external services."

InfoWorld

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Industry Trends

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Wall Street Journal - Software is Eating the World

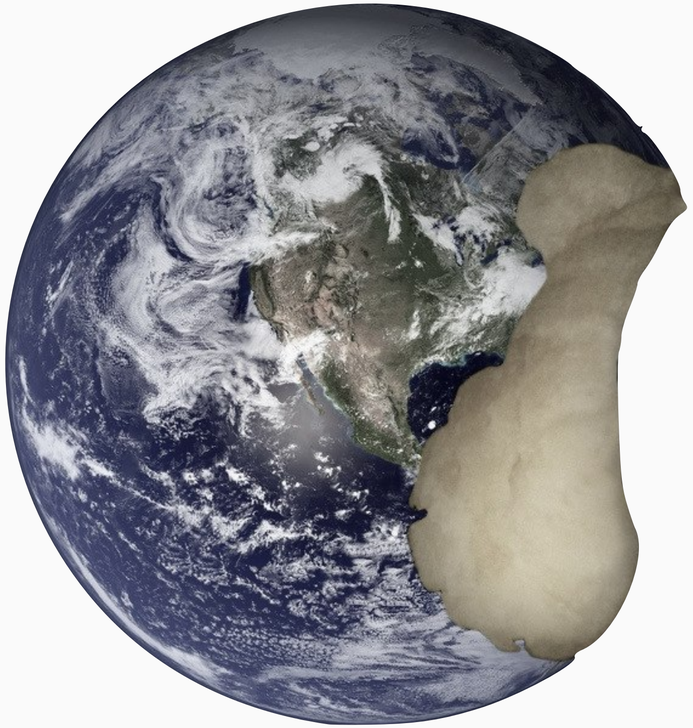

Photo by JD Hancock

Marc Andreesen

Coauthor of Mosaic, cofounder of Netscape and technology visionary.

In short, software is eating the world.

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Software is Changing Industries

Starting at 0 in 2011, these companies have created more then 50B in market valuation.

Square

$3.5B valuation
Financial Services

$40B valuation
Transportation

NETFLIX

$26B valuation
Entertainment

airbnb

$3.5B valuation
Travel & Hospitality

$3.2B Acquisition by Google
Home Automation

TESLA

$26B valuation
Automotive

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Top 5 IT Companies

Since 2011, these companies have had 32 quarters of revenue growth < 2%

IT Industry Disruption… Quarterly Revenue Growth

	FY11				FY12				FY13				FY14			# Quarters	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	3%+	≤2%
CISCO	19%	6%	5%	3%	5%	11%	7%	4%	6%	5%	5%	6%	2%	-8%	-6%	12	3
hp	8%	4%	3%	2%	-4%	-7%	-3%	-5%	-7%	-6%	-10%	-8%	-3%	-1%	n/a	3	11
IBM	3%	7%	8%	12%	8%	2%	0%	-3%	-5%	-1%	-5%	-3%	-4%	-6%	-4%	5	10
ORACLE	47%	36%	12%	11%	2%	3%	1%	-2%	3%	-1%	0%	2%	2%	4%	n/a	7	7
Microsoft	25%	15%	13%	8%	7%	5%	6%	4%	0%	3%	8%	3%	7%	14%	8%	14	1

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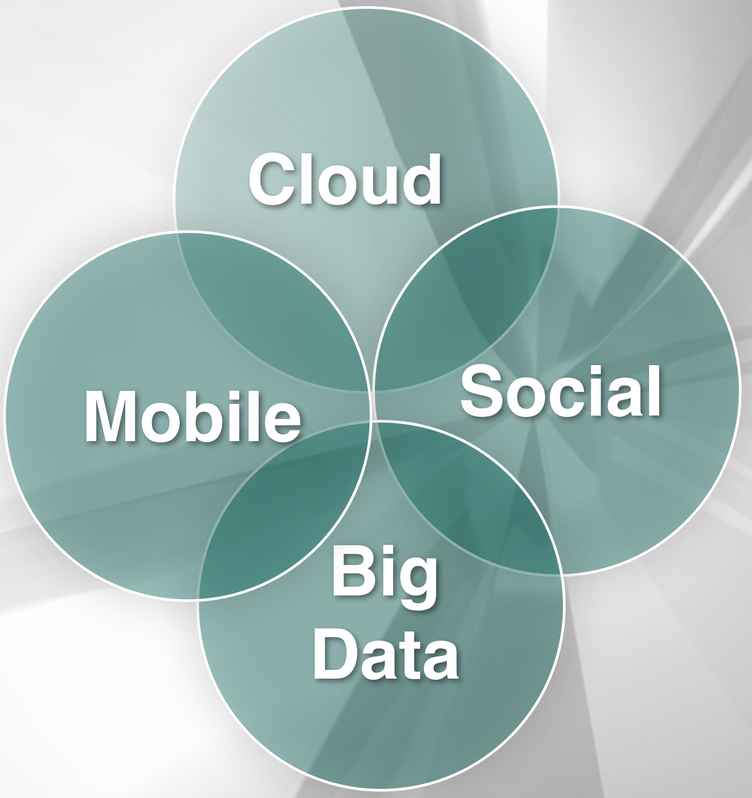
What We're Hearing From Customers

Need for Speed

Enterprises are being driven to **compete, innovate & execute** faster than ever before:

- Global reach and emerging markets
- Ever-increasing customer expectations
- Legacy environment & cost pressures



At a time when we're witnessing the most **disruptive platform shifts** and advances in technology in over 30 years

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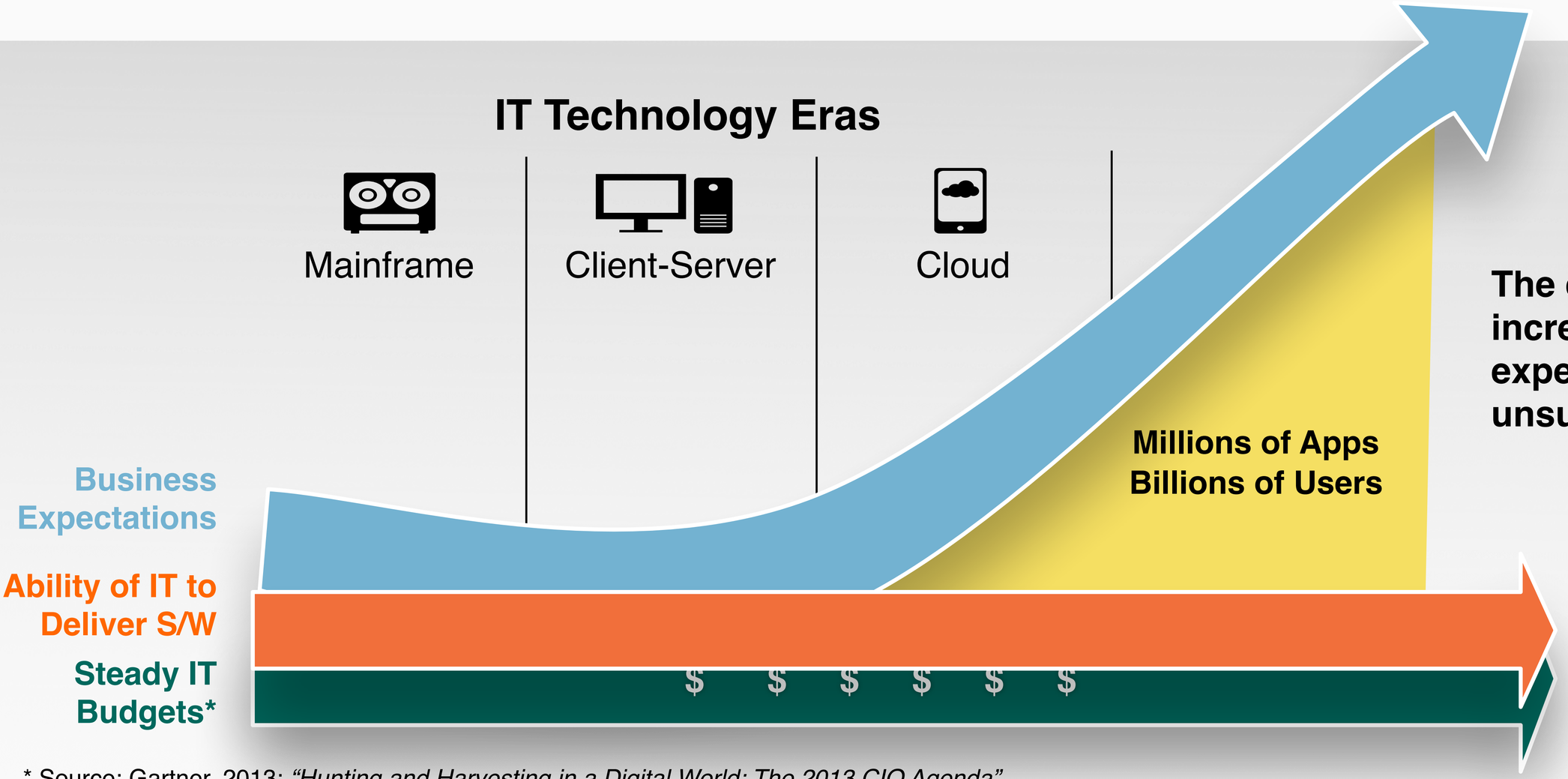
Business Expectations Exceed IT Capabilities

The Unsustainable Path for Traditional IT



The exponential increase in business expectations is unsustainable for IT

* Source: Gartner, 2013: *"Hunting and Harvesting in a Digital World: The 2013 CIO Agenda"*

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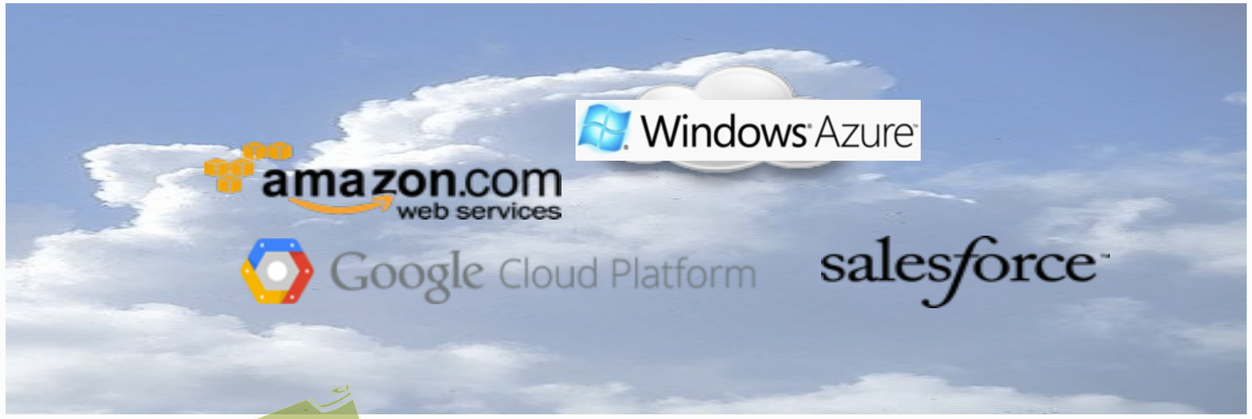
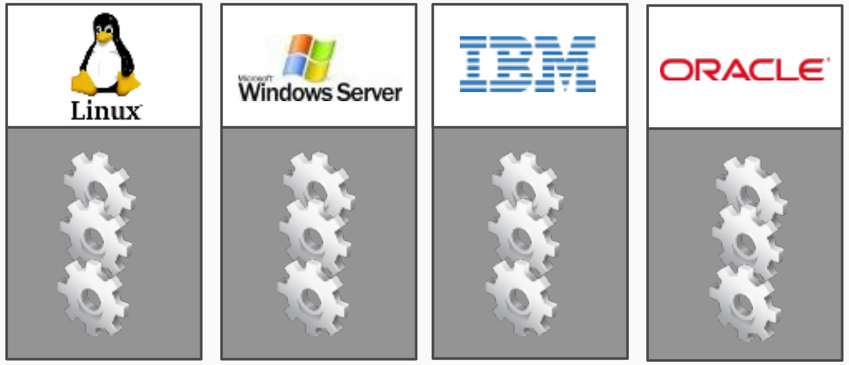
Great Software Remains Constrained By Silos

Modern Silos Hold Apps & Data Captive

Modern Silos



Legacy Silos



- Captive apps and data
- Closed source/proprietary
- Vendor lock-in
- Talent and Expertise gap

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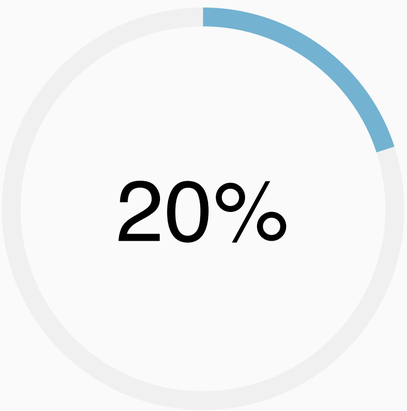
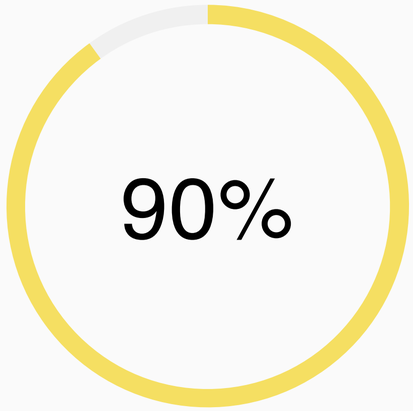
Mobile Trends in the Enterprise

Where we are heading



2013

20% of enterprise apps are mobile



2017

90% of enterprise apps will be desktop and mobile

Source: Gartner

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Rapid Innovation Requires a New Approach

DEVELOPERS

- Dramatically improve the developer experience
- Agile teams, rapid iteration
- Ingest and incubate open source advancements and new data services

OPERATORS

- Continuous delivery, no planned downtime
- Instant scaling of apps and data services
- Automation and deployment consistency at every step

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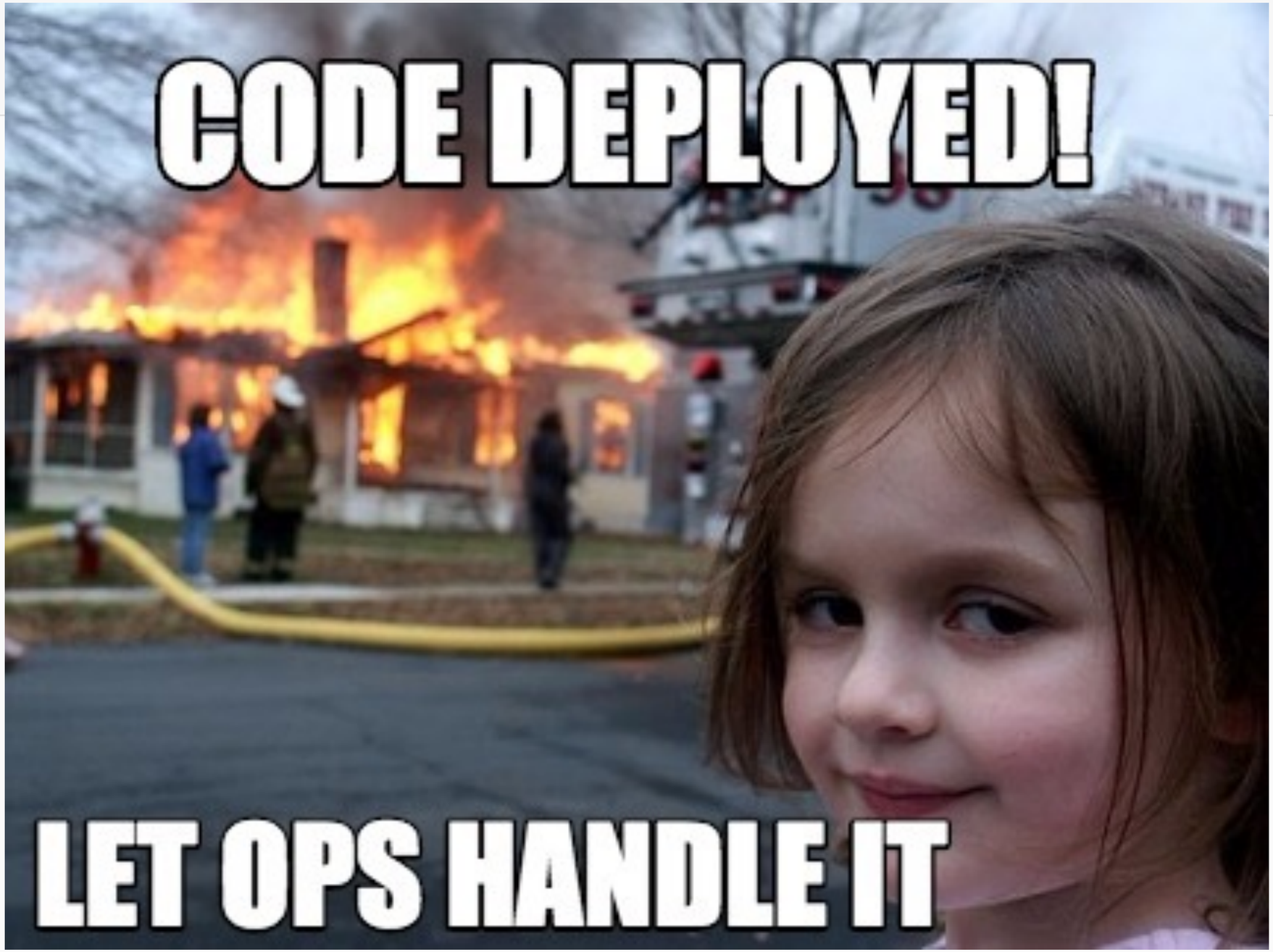

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Cloud Foundry

The OSS Community

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Cloud Foundry

Open everything

CLOUD FOUNDRY

COMMUNITY

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The Cloud Foundry Foundation

The Largest Open Source PaaS Ecosystem

Pivotal, EMC², IBM, hp, SAP, rackspace HOSTING, vmware

Platinum members

accenture (High performance. Delivered.), ActiveState, BNY MELLON, Capgemini (CONSULTING.TECHNOLOGY.OUTSOURCING), CenturyLink, swisscom, ERICSSON, GE, intel, verizon, NTT Communications, Coming Soon

Gold members

Alpine, ALTOROS, Anchora, anynines, APPDYNAMICS, AZUL SYSTEMS, bluebox, CANONICAL, CloudCredo, docker, JFrog, mongoDB, Piston (PISTON CLOUD COMPUTING), redislabs, Stark&Wayne, TELUS

Silver members

Over 100k downloads of Cloud Foundry (OSS) software and tools!

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The Largest Open Source PaaS Ecosystem

Driven by the Community

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Pivotal CF

The Leading Enterprise Cloud Foundry Distribution

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Core Tenets of Pivotal CF

The Enterprise Platform as a Service

Radically Simple, Developer Friendly

- Push an app and “it just works”
- Build applications that consume increasing amounts of data, supporting wide ranging use cases
- Support new application patterns like Microservices

Easy to add and customize

Broad Ecosystem Services

Data Services

App Services

Mobile Services

Operational Benefits for Every Application

- Highly scalable, self healing
- Logging and audit trail requirements
- Existing enterprise policies on user access & authorization
- Application Monitoring and Operational metrics
- Application Uptime SLAs

Deploy, Operate, Update & Scale with minimal downtime on Any IaaS

vmware amazon webservices™ openstack Google Cloud Platform ….and more

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Pivotal CF

Commercially Supported Enterprise PaaS by Pivotal

Pivotal CF™

- **Certified** upgrades, **curated** & **tested** quarterly releases
- **Operations Manager** Cloud Administrative Console
- Elastic Runtime **Developer Console**
- Built-in **Application Performance Monitoring** (APM)
- **Operational Metrics** service
- **Auto-Scaling** service
- Easy **LDAP/Active Directory** Integration
- **Historical Usage** Data per Application Instance
- Declarative **Availability Zones**
- **Behind the firewall** download packages (do not require internet access)

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Pivotal CF Services

Your Service Menu

Pivotal HD Service for Pivotal CF
Gain insight from the massive data captured by apps, syst...

API Gateway for Pivotal CF
Create mobile-optimized APIs

Redis for Pivotal CF
Cloud Foundry Redis service for application development a...

Riak CS for Pivotal CF
An S3-compatible object store for Cloud Foundry applications

Not Pictured: Ops Metrics for JMX monitoring

Push Notifications for Pivotal CF
Add secure push notifications to your mobile apps

Data Sync for Pivotal CF
Secure data store with mobile-optimized access

RabbitMQ Service for Pivotal CF
Give your applications a common platform to safely send

MongoDB for Pivotal CF
MongoDB Data Store

MySQL for Pivotal CF
MySQL database-as-a-service for Cloud Foundry applications

App Autoscaling for Pivotal CF
Scales bound applications in response to load

Cassandra for Pivotal CF
Cassandra KV and Table Store

Elasticsearch for Pivotal CF
Elasticsearch Search Engine

Jenkins Enterprise by CloudBees
Continuous Integration and Delivery for Software

Memcached for Pivotal CF
Memcached Elastic Cache Service

Neo4j for Pivotal CF
Neo4j Graph Database

Pivotal Spring Insight
Zero touch instrumentation of Java applications

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Pivotal CF

A NEW PLATFORM FOR A NEW ERA