



# Pivotal®

---

## Transforming How The World Builds Software

© Copyright 2017 Pivotal Software, Inc. All rights Reserved.



VISIT: CYBER | WHO WE ARE | WHAT WE DO | GLOBAL | NEWS | INVESTORS | CAREERS |

<< [Back to News Release Archive]

## RAYTHEON AND PIVOTAL TO ACCELERATE CLOUD MIGRATION AND SPEED SOFTWARE DEVELOPMENT FOR THE FEDERAL GOVERNMENT

### COMPANIES WORKING TOGETHER TO HELP THE DEPARTMENT OF DEFENSE ACCELERATE SOFTWARE DEVELOPMENT CAPABILITIES

SAN FRANCISCO, Dec. 5, 2017 /PRNewswire/ -- Raytheon Company (NYSE: RTN) and Pivotal Software, Inc., today announced that Raytheon has joined the Pivotal Ready Partner Program to assist the Department of Defense to develop software capabilities to more rapidly bring new technology to the military. The agreement establishes an important relationship that will help the DoD migrate legacy applications to the cloud and accelerate software development and delivery timelines.

"This partnership marks the end of 'business as usual' for defense contractors," said Todd Probert, vice president of mission support and modernization at Raytheon Intelligence, Information and Services. "The software enabled battlefield of the future demands new tools for the modern warfighter. Raytheon's deep mission knowledge and expertise in systems and software combined with Pivotal's innovative processes, tools and speed will change the way our military harnesses the power of technology."

Pivotal Cloud Foundry brings a software-led digital transformation to its customers. Through its cloud-native platform, Pivotal has helped hundreds of commercial customers, and recently the DoD, modernize their legacy systems, significantly improving delivery time and generating millions in cost savings.

"Today we are seeing government organizations embrace software as a strategic asset to rapidly respond to change, and Pivotal is helping enable that shift," said Nick Cayou, vice president, global alliances at Pivotal. "Since moving at startup speed is on the minds of every government organization, the collaboration between Pivotal and Raytheon will help customers drastically improve cycle time and go from idea to production software in days and weeks, not months and years."

[About Pivotal Software, Inc.](#)

Customers say it all too often:

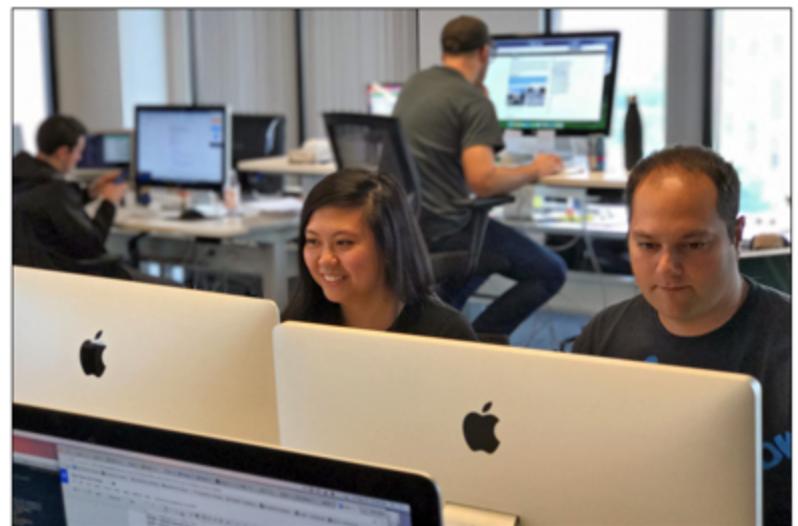
"You gave me what I asked for, but not really what I wanted."

That's a problem with the "waterfall method" of software development—a sequential process starting with requirements, then going on to design, testing, deployment and maintenance, which usually includes a lot of changes that weren't initially considered.

Raytheon recognized that this approach doesn't meet the demands of its military, government and commercial customers in a dynamic cyber world, so it has adopted a better and faster way of developing software—using Agile and DevOps with cloud-native platforms.

## AGILE FOR THE ARMED FORCES

RAYTHEON ADOPTS SPEEDY, EFFICIENT SILICON VALLEY METHODS TO DEVELOP SOFTWARE



Raytheon's Quynh Tran and Leon Kaplan work on the AOC Pathfinder program using Agile DevOps software development at Pivotal Labs in Cambridge, Massachusetts.

[https://www.raytheon.com/news/feature/agile\\_devops.html](https://www.raytheon.com/news/feature/agile_devops.html)

Checkpoint

## The Pentagon has tried to get Silicon Valley on its side for years. Now it's part of the air war against ISIS.

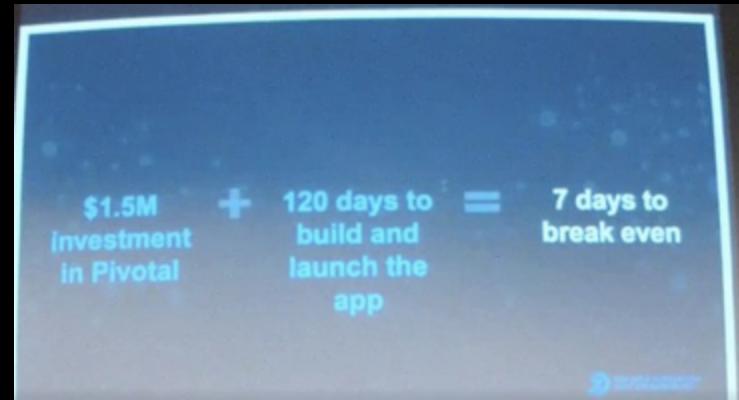
By Dan Lamothe July 19



A U.S. Air Force F-16 Fighting Falcon refuels from a KC-135 Stratotanker in support of Operation Inherent Resolve on Feb. 15. (Senior Airman Jordan Castelan/Air Force)

The Pentagon's Silicon Valley office is developing several new computer programs for the U.S. military's air operations center running the bombing campaign against the Islamic State, one of its largest efforts since launching two years ago.

The effort was started in the fall after several academics and Silicon Valley executives, including Alphabet chief executive Eric Schmidt, visited the Air Force's air operations center in Qatar as part of a tour of U.S.



INSIDE DEFENSE

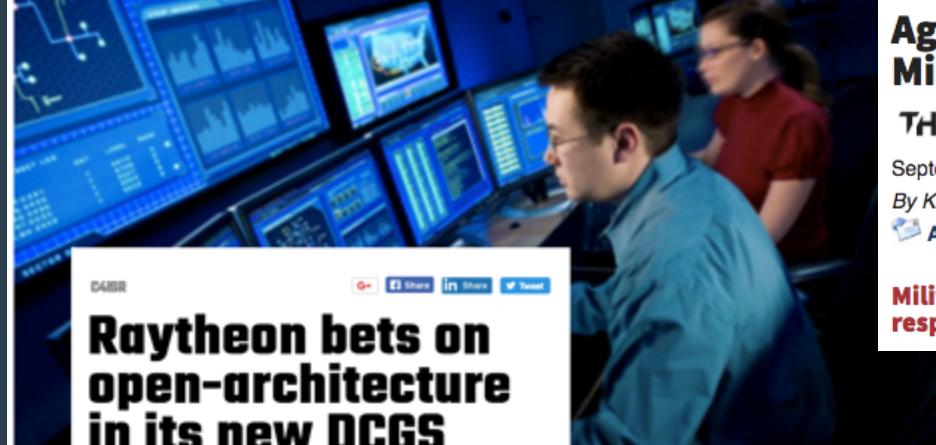
DAILY NEWS

### Air Force kills AOC 10.2 contract with Northrop, opts for DIUx pathfinder

July 13, 2017 | Courtney Albin Rachel Karas

The Air Force announced this week it will terminate its contract with Northrop Grumman to develop the Air Operations Center 10.2 upgrade program, opting instead to pursue an AOC





## Raytheon bets on open-architecture in its new DCGS intelligence analysis platform

BY ADIN DOBKIN • OCT 10, 2017

Share



“Instead of years or months or weeks to develop software or a system, we are now seeing software deployment in weeks or days or hours.”

“The use of software development best practices, such as Agile and DevOps, speeds up the delivery of these systems to the warfighter.”

## Agile Software Development Will Be Key for the Military

THE CYBER EDGE

September 7, 2017

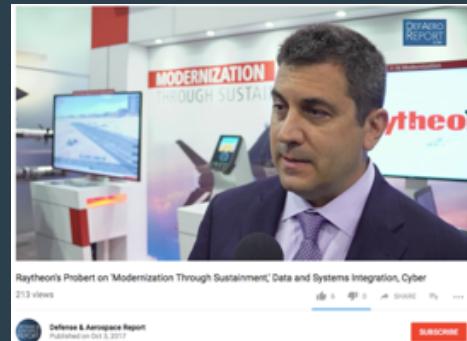
By Kimberly Underwood

About the Author

Military commanders have to contend with a new cyber domain that calls for responsive, “agile” software development.

### USAF's Pawlikowski: DoD Use of Agile Software Development 'Critical'

BY JENNIFER-LEIGH OPRHORY





## The No. 1 Way Technology is Transforming Defense

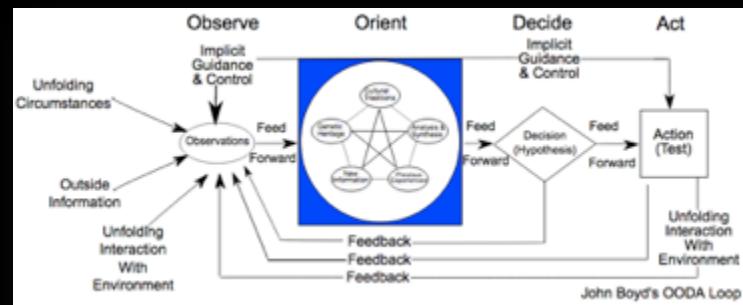
Published on July 24, 2017

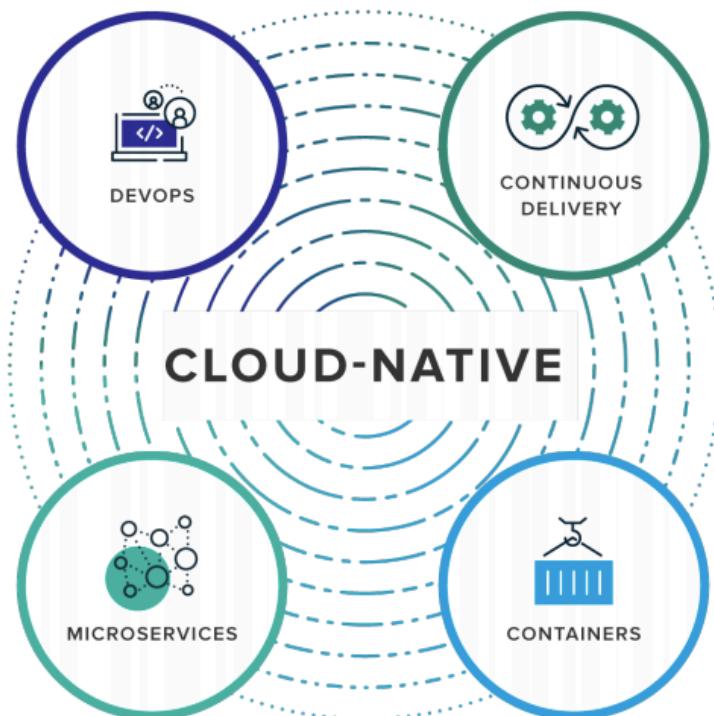
 Tom Kennedy  Following  
Chief Executive Officer at Raytheon  
7 articles

 1,300  34  202

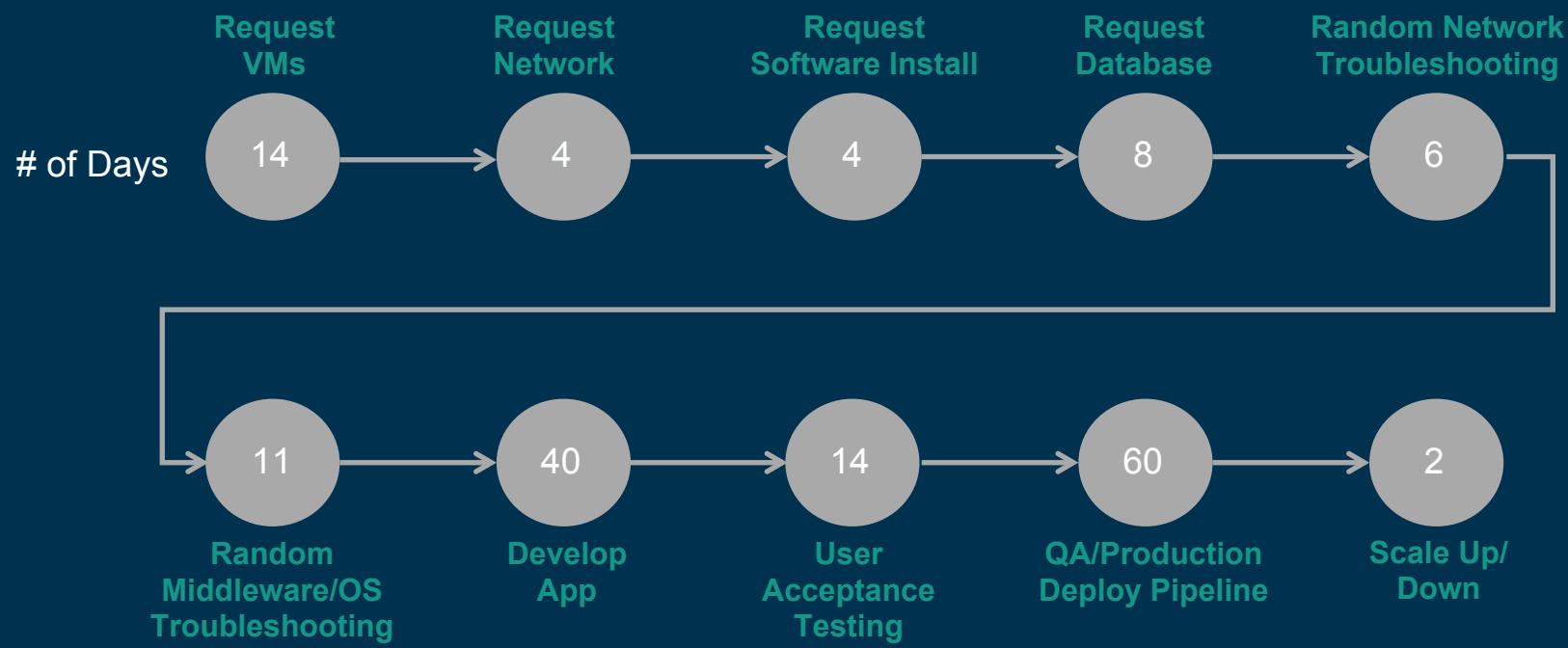
The rapid pace of technological change is transforming every business, every organization and every aspect of life. National defense is no different, and the biggest way technology is transforming this area is speed.

The old saying is that “every second counts.” In reality, it’s now more like milliseconds. A second is just too slow. An extra millisecond in finance could cost a firm millions as stock prices fluctuate. In defense, a fraction of a second could mean the difference between effectively countering an attack or mission failure.



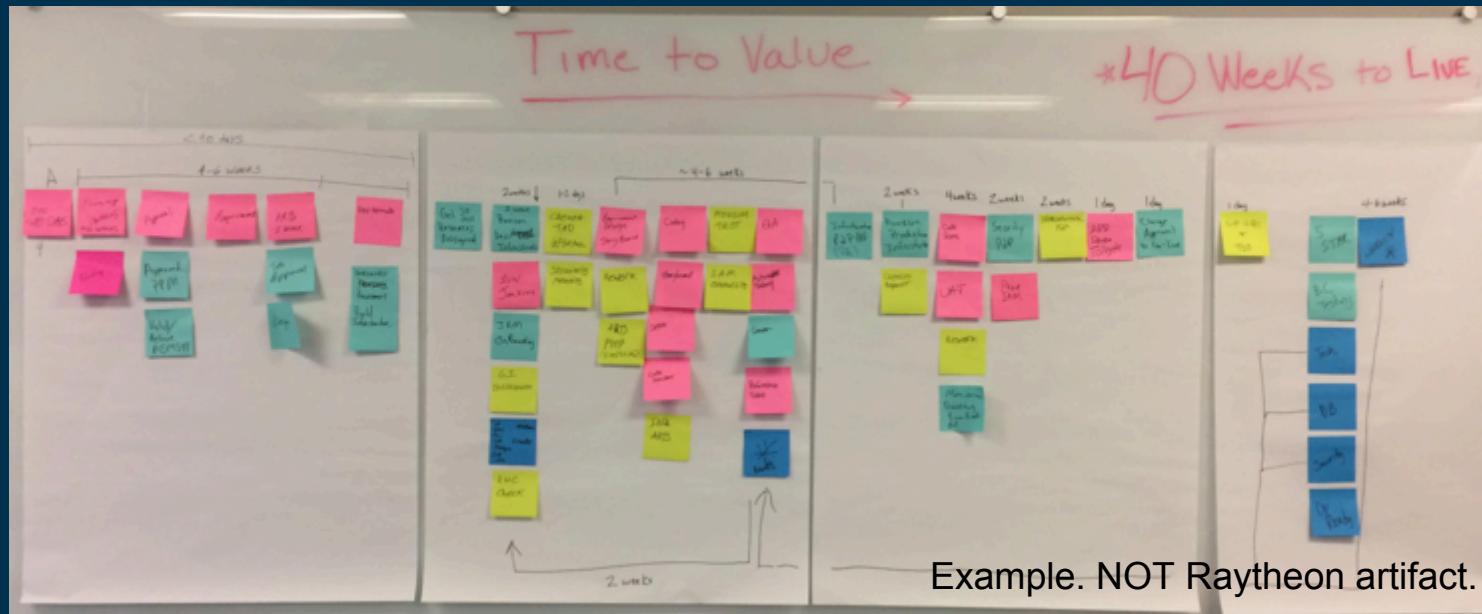


**Cloud describes any computing environment in which computing, networking, and storage resources can be provisioned and released elastically in an on-demand, self-service manner.**





# Value Stream Mapping





# Our mission is to transform how the world builds software

01

**Modern  
Cloud Native Platform**

02

**Modern  
Software Methodology**

03

**Modern  
Data Tools**

# 1990

## Discover

An agile, rapid iteration, test-driven approach to software development



# 2000

## Implement

New methodologies to influence software development culture of Silicon Valley's most influential internet companies



Google

ebay

# 2013

## Accelerate

The transformation of the world's largest companies with modern software development methods and cloud platform



Rob Mee



Paul Maritz



Scott Yara



Bill Cook

# 2017

## Transform

The world's largest companies into cloud native software companies



Allstate



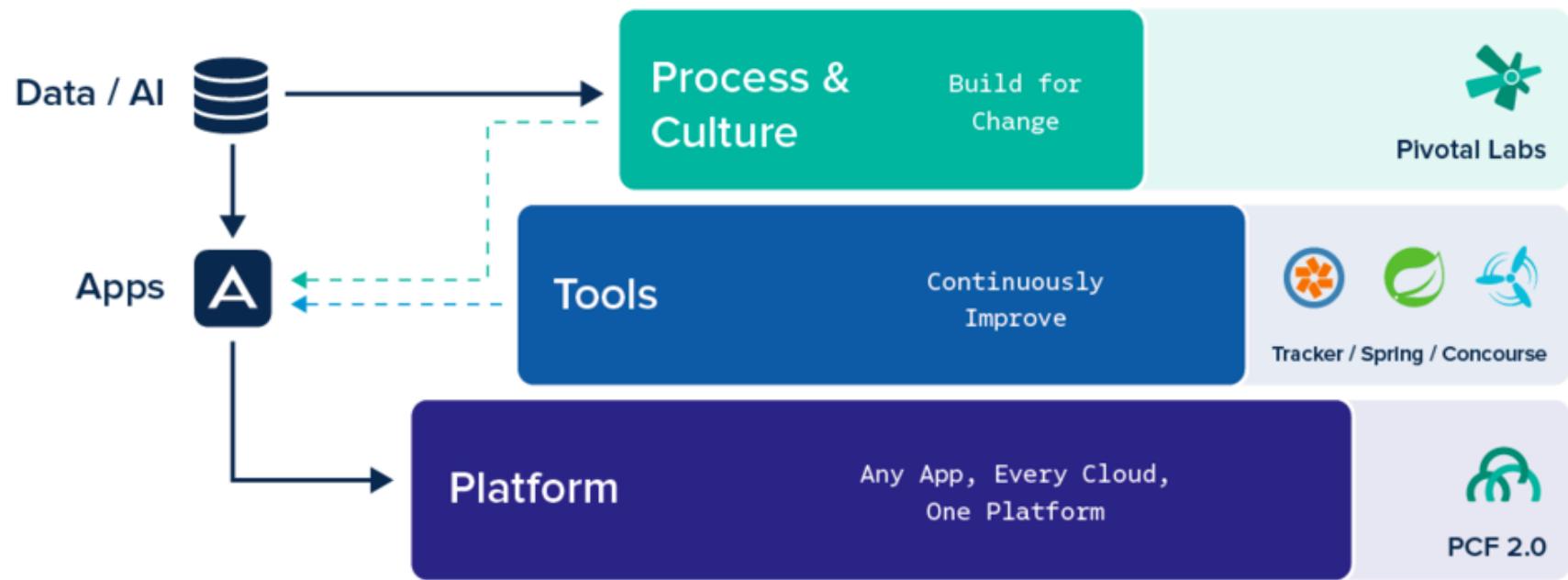
Humana



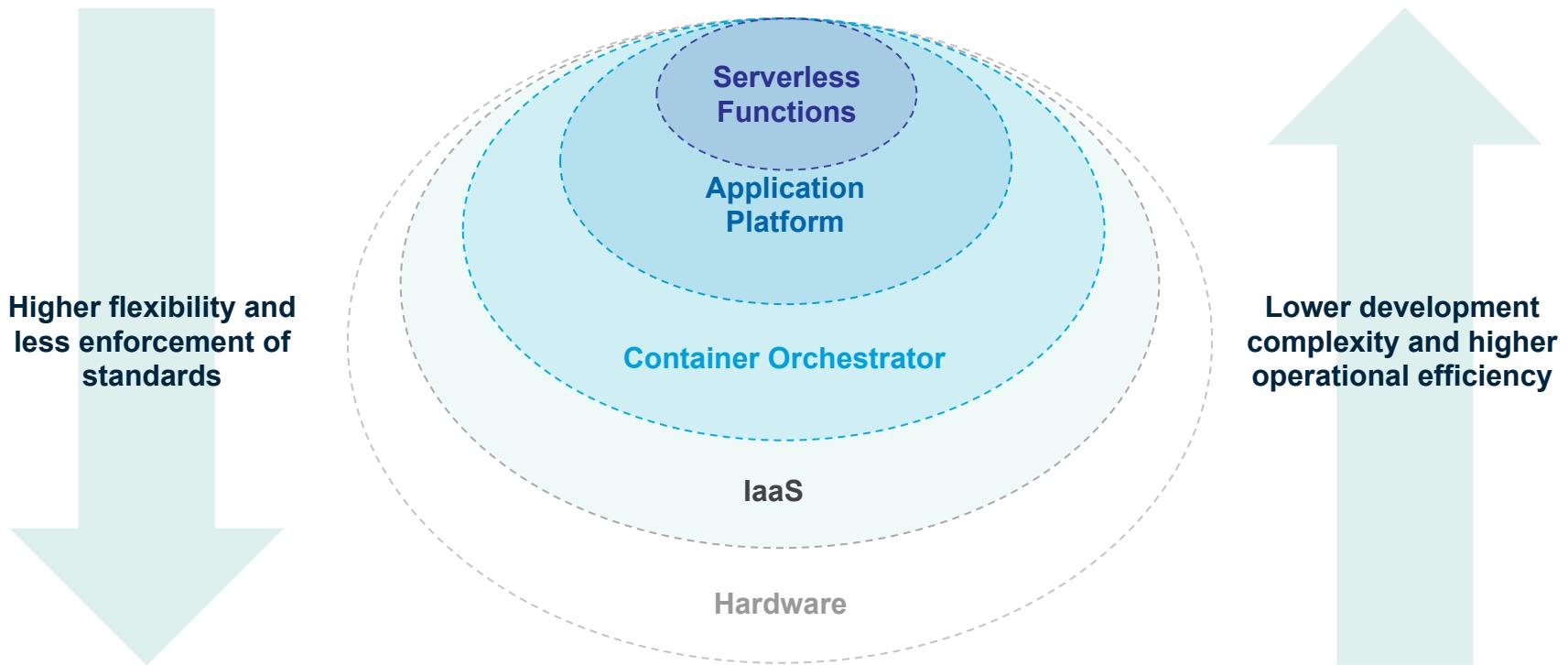
dish

Pivotal

# Everything you need to transform.



Pivotal



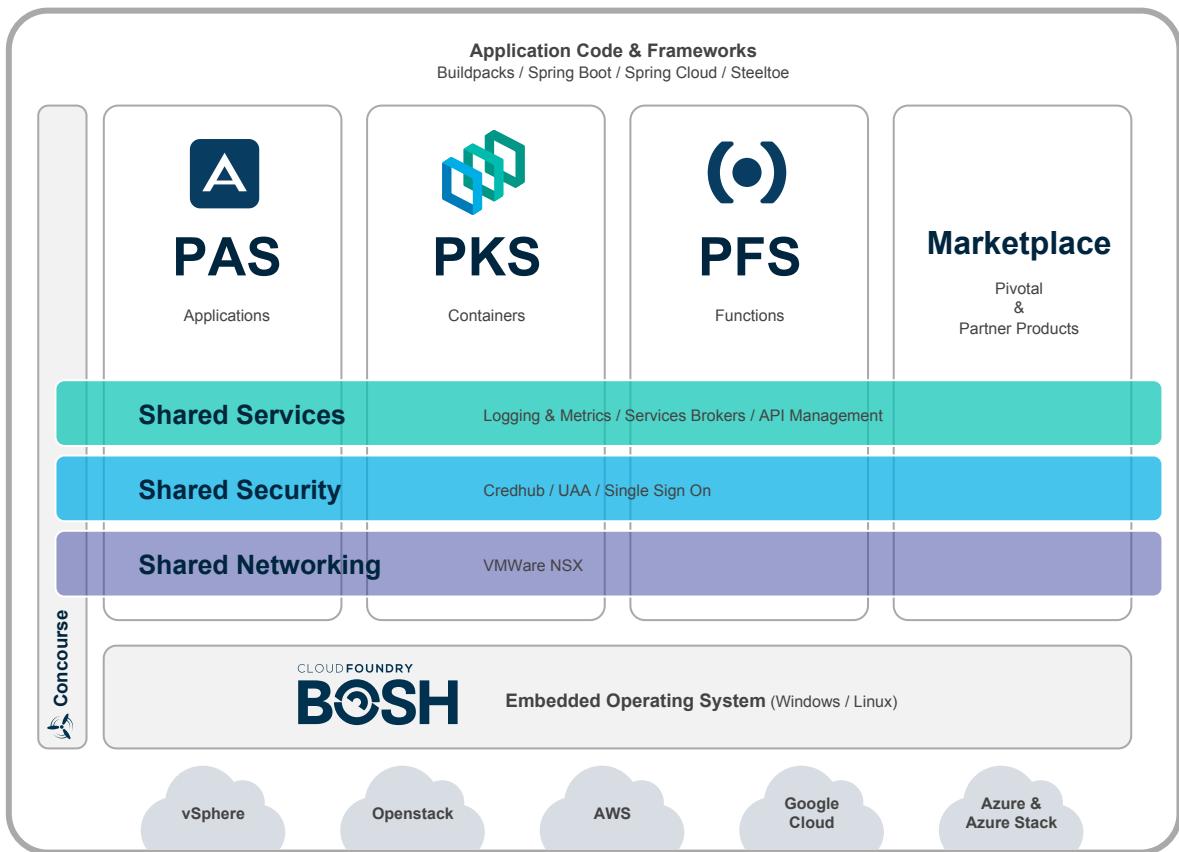
**Strategic goal:** Push as many workloads as technically feasible to the top of the platform hierarchy

Pivotal

# Any App Every Cloud One Platform

PCF 2.0 — for everything that matters

Pivotal



## Developer dream haiku



Here is my source code,

Run it in the Cloud for me,

I do not care how

# The value proposition



## Developer Productivity

- Any programming language, same runtime experience
- Simplified deployment



## Operational Efficiency

- Employ 500:1 developer to operator ratio
- Perform zero-downtime deployments
- Runs the same way on every public/private cloud



## Comprehensive Security

- Defense-in-depth approach
- 3 R's → repair, repave, rotate



## High Availability

- Multi-cloud resilience patterns
- Built-in HA

Pivotal

# Secrets of Successful Cloud Foundry Users



Companies using Cloud Foundry are showing remarkable results in their digital transformation efforts.

GARMIN

**1100**

DEPLOYS  
PER  
MONTH

COMCAST

**50%**

IMPROVEMENT  
IN TIME  
TO MARKET

LIBERTY MUTUAL

**4**

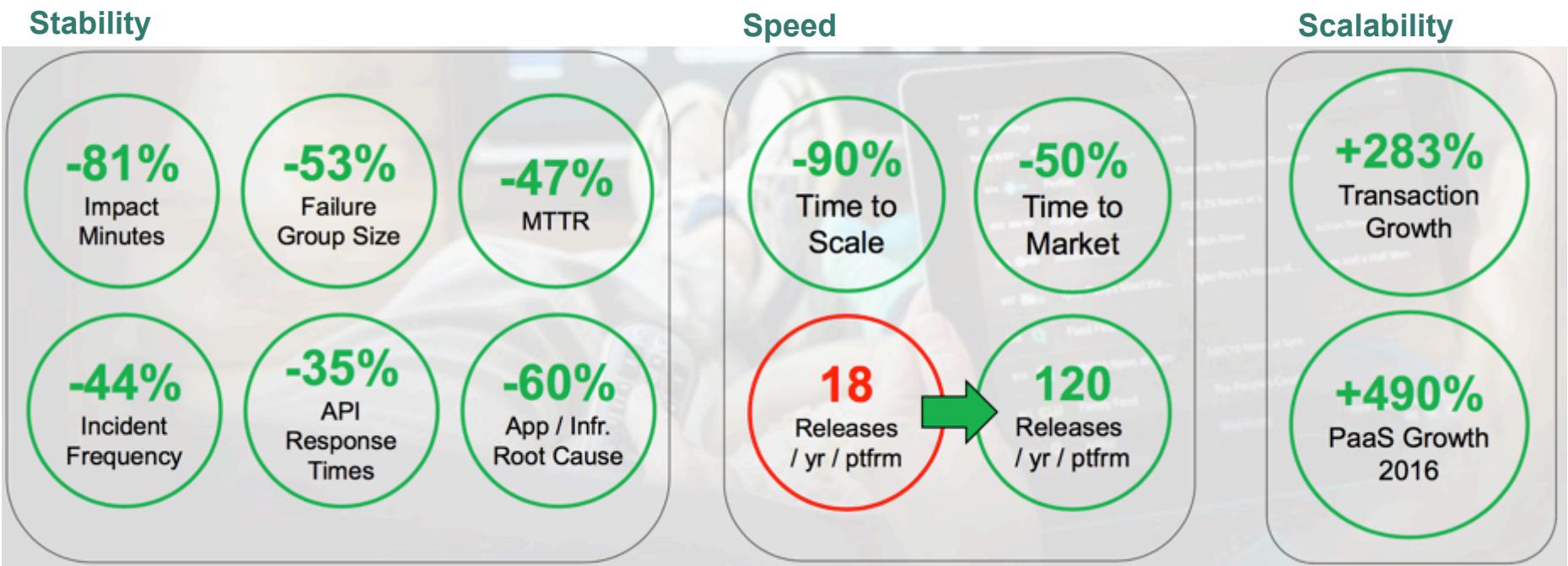
WEEKS  
TO AN  
MVP

But, it takes more than software to transform.

How did these companies start?

What did they do differently?

# Measure the valuable metrics before and after



Talk from CF Summit [here](#)

© 2017 Pivotal Software, Inc. All rights reserved.

Pivotal 19

## Platform Journey

**Start** delivering a new platform capability with Pivotal at my location and/or a Pivotal office

### Launch The Platform Capability

Build a balanced product team, get an app to production

**Ingrain** reliability practices in my team, with Pivotal's help

### Extend The Platform

Launch more capabilities, cement culture + practices

**Scale** delivery of the platform with my team at my location

### Use The Platform At Scale

Culture established, Pivotal ramps down

## Applications Journeys

**Start** an immersive experience with Pivotal ideally at a Pivotal office

**Ingrain** methodologies and practices within my team, with Pivotal's and/or Partner's help at my location

**Scale** performing methodologies and practices with my team at my location with help from a Partner(s)

## Existing Application Transformation

### Replatform Existing Applications

### Construct And Begin Enterprise Application Transformation Plan

Execute App Transformation Plan  
Execute App Transformation Plan  
Execute App Transformation Plan

## Application Innovation

### Develop Custom Application

### Establish Culture & Train New Leaders

Project work, leadership training/coaching

### New Culture At Scale

Culture established, Pivotal ramps down



Pivotal Labs • @pivotallabs · Dec 6

Wise words from Niki Allen of @boeing:

“Culture will  
eat strategy  
for lunch.”

SpringOne Platform

GIF

Pivotal

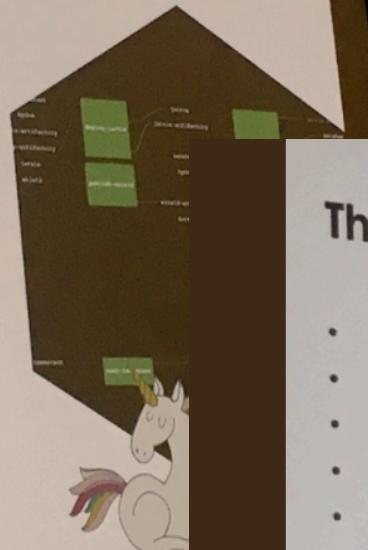


Niki Allen

Director of the Office  
of the CIO and Chief  
of Staff, Boeing

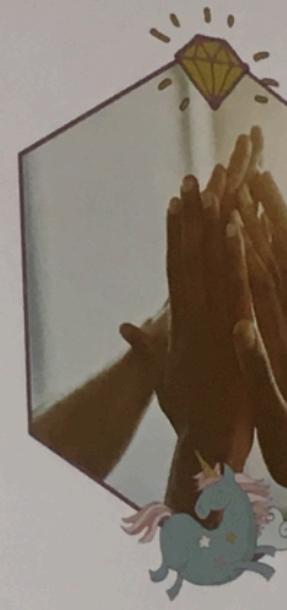
## DevOps Is Not

- Tools
- Title
- More Tools
- Using Config Management
- Building CI Pipelines
- Checking your config files into source control



## The Foundation - Culture

- Autonomous Teams
- Cross-Functional Teams
- Frictionless Collaboration
- High Levels of Trust
- Shared Responsibility
- Customer Focus
- Tight Feedback Loops
- High Levels of Automation



Danielle Burrow  
@DBurrow11



Critical components of #DevOps? High performing teams, feedback loops, design for release, empathy & accountability, telemetry, magic  and leadership buy-in of strategy and culture changes /@mattjcurry of Allstate #SpringOne

2:14 PM - Dec 5, 2017

 **Bryan Friedman**  
@bryanfriedman

Great adoption of #CloudFoundry and @springboot at @LibertyMutual. In two years, went from 20% to 80% of total deploys on #CloudFoundry. Over 70% of apps are Spring apps. #springone

12:27 PM - Dec 5, 2017 · San Francisco, CA

1 6 9

## PCF DEV Enablement

"Enable and empower DEVELOPERS to do their best job in PCF/Cloud Native world"

Team formed and immediately focused on setting goals & objectives as well as learning (Spring, Spring Boot, Spring Cloud, PCF, Cloud Native, etc.)



High Level Team Goals/Objectives

- Represent App DEV team perspective to PCF Engineering & Operations
- Define and coordinate implementation of required development tooling
- Provide architectural guidance and consulting to dev teams
- Establish a community - provide learning opportunities, workshops, knowledge base, etc.
- Stay abreast of evolving developments in the cloud native space
- Create Reference Application and reference architecture, patterns, and practices

[SpringOne Platform](#) [Pivotal](#)

 **Bryan Friedman**  
@bryanfriedman

Todd Hall from @Ford sharing their cloud native journey. Adopted @springboot + @pivotalcf and formed an "enablement" team. "We don't want governance, we want to offer compelling solutions and suggestions to solve specific business problems." #springone

5:14 PM - Dec 6, 2017 · San Francisco, CA

 **Dormain Drewitz**  
@DormainDrewitz

Part of the #DevOps transformation at @verizon was going from patching every 6 months to pushing out patches weekly. That's where @concourseci comes in/@osukirkland at #SpringOne

4:38 PM - Dec 5, 2017

1 6 9



**Keith Rodwell**  
IT Cloud Architect  
Raytheon

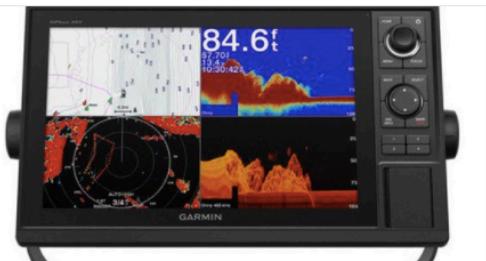
Minimizing Compliance Resistance to Digital Transformation - Design for Regulatory Approval as Carefully as You Design Your Automation

[Transformation, Case Studies](#)

 **jambay**  
@jambay

PL/SQL microservices for real at @garmin by @monkchips (powered by @springboot & @pivotalcf) [redmonk.com/governor/2017...](#)

8:14 AM - Dec 7, 2017



PL/SQL microservices for real at Garmin

When I think of microservices it tends to conjure up an image of developers at startups in SOMA writing in Go. It's a cliché. Today at [redmonk.com](#)

 **badnima**  
@badnima

From 2.2m to 22m downloads/month in less than 2 years - @springboot is the rocket ship of developer productivity.

10:25 AM - Nov 21, 2017

1 4 9



## FORGET SILICON VALLEY

Why working for a defense contractor is surprisingly cool.

[READ MORE](#)

---

SpringOne Platform

by Pivotal.

SESSIONS SPEAKERS AGENDA TRAINING TRAVEL

2018

SEPT 24-27 WASHINGTON, D.C.

GAYLORD NATIONAL RESORT & CONVENTION CENTER

Pivotal