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World Champions of Digital Transformation

June, 2018

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Pivotal
RedMonk
451 Research
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"Digital transformation" == creating better software

orange
50% B2B customer engagement, shipped in 6 months vs. 18.

COMCAST
3+ week to 3 days, 50% reduction in incidents, 4 ops

U.S. AIR FORCE
Moved from a whiteboard to ~20 features a week, in 120 days

BOEING
100x inf. delivery, 6x asset utilization

HCSC *Health Care Service Corporation*
40%+ productivity/cost, rebooted member facing app

Liberty Mutual INSURANCE
40% policy strike rate, vs. 20% industry average

Sources: *Crafting your cloud-native strategy*, Coté, 2017; Air Force story; Mojgan Lefebvre, Liberty Mutual, June, 2017; Interview with Orange's Xavier Perret, Pivotal Insights #53, 2017; Boeing and the Three E's of Digital Transformation," Jeff Kelly, Built to Adapt, March 2018.

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A new business in 6 months, doubling avg. sales rate

Source: "Leap of Agile Faith," Mojgan Lefebvre, SVP & Chief Information Officer, Global Specialty, Liberty Mutual Insurance, June, 2017.

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"Today, new software products are delivered in as few three months compared to a lag time of up to three years."

Source: "Boeing and the Three E's of Digital Transformation," Jeff Kelly, Built to Adapt, March 2018.

Better software starts with removing the ops bottleneck

Our Results

COMCAST

Resiliency (run the business)

- **-81%** Impact Minutes
- **-53%** Failure Group Size
- **-47%** MTTR
- **-44%** Incident Frequency
- **-35%** API Response Times
- **-60%** App / Infr. Root Cause

Time to Market (change the business)

- **-90%** Time to Scale
- **-50%** Time to Market
- **18** Releases / yr / ptfrm → **120** Releases / yr / ptfrm

Scale

- **+283%** Transaction Growth
- **+490%** PaaS Growth 2016
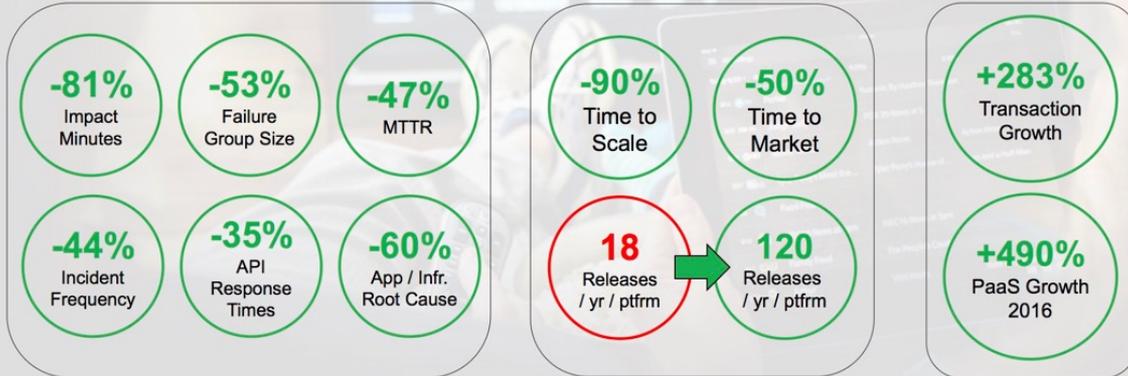
- **5,700+ apps & services, customer-facing & back-office for Xfinity**

- **25k transactions/second, 1.5bn/day**

- **70% of BOSH deploys during the day**

- **4 platform operators**

- **Compare to T-Mobile USA with 8 platform ops**

Source: "Comcast Cloud Foundry Journey - Part 2," Greg Otto, Comcast, CF Summit NA, June 2017; Comcast SpringOne talk, Dec 2017; "Comcast Cloud Foundry Journey," Greg Otto, Comcast, June 2013; "Zero to 12 Million," Brendan Aye, T-Mobile USA, SpringOne Platform, Dec 2017 (11,000 containers in prod. In Dec 2017: 6 ops, 2 dev).
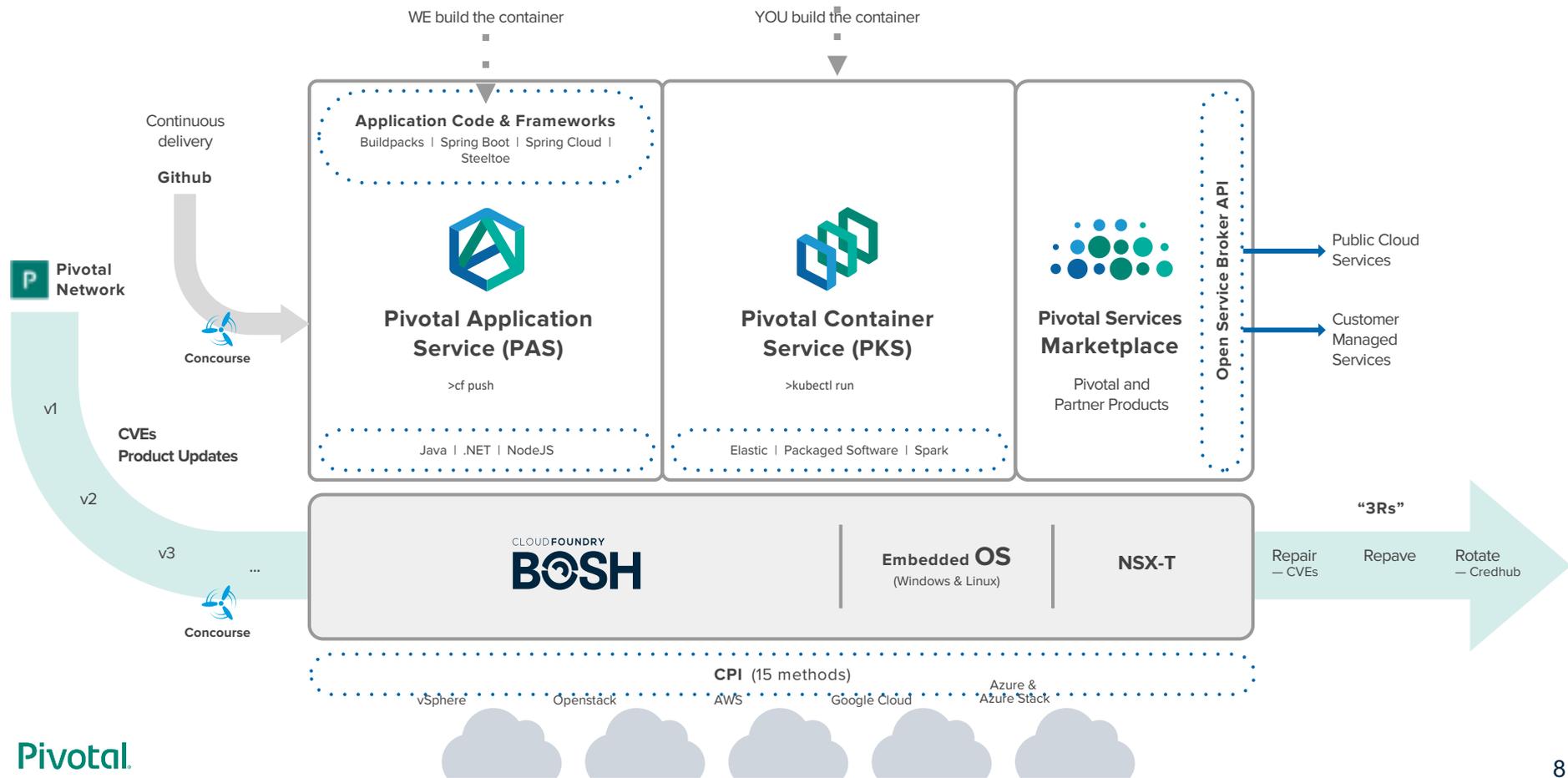
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T-Mobile USA: 7 months production releases to same day

What affect did it have on the Business?

Faster apps
43% reduction in application response time

More frequent changes
40% increase in planned changes

Fewer and shorter incidents
83% fewer incidents, resolved 67% faster
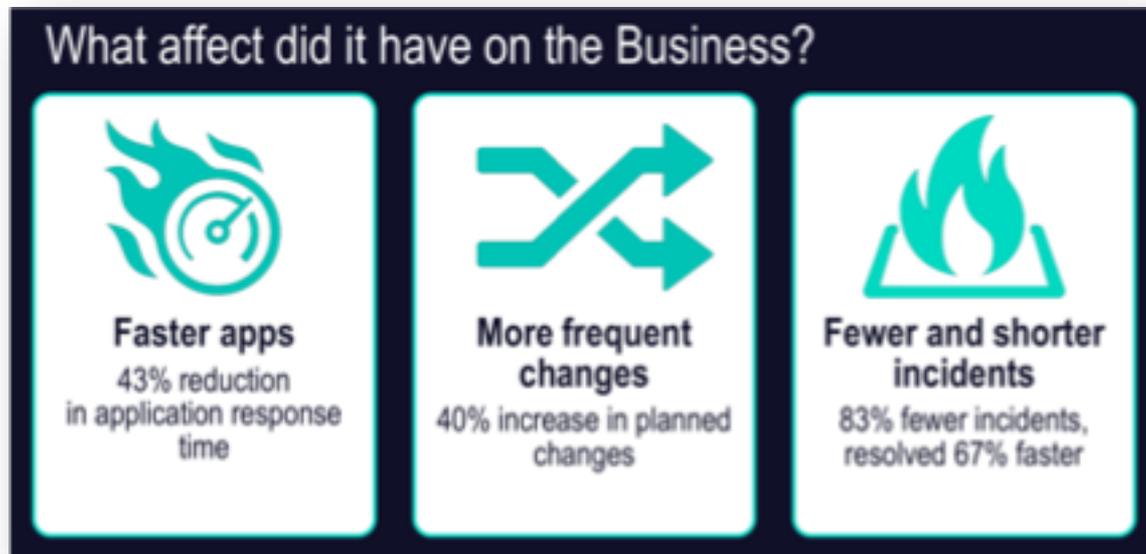
- **Core services supporting iPhone launch, elastic scaling, daily usage, etc.**

- **GetUsage: 12m requests/day**

- **11,000 containers in production**

- **Same day fixes/deploys**

- **300+ developers, across 3 major organizations.**

- **Product team ownership of governance**

- **8 platform ops – 6 ops, 2 dev**

Source: "Zero to 12 Million," Brendan Aye, T-Mobile USA, SpringOne Platform, Dec 2017. 11,000 containers in production as of December 2017, from 3,000 in August 2016).

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Pivotal Cloud Foundry removes operations bottle-necks

WE build the container

YOU build the container

Continuous delivery

Github

Pivotal Network

Concourse

v1

CVEs
Product Updates

v2

v3

...

Concourse

Application Code & Frameworks
Buildpacks | Spring Boot | Spring Cloud | Steeltoe

Pivotal Application Service (PAS)

>cf push

Java | .NET | NodeJS

Pivotal Container Service (PKS)

>kubectl run

Elastic | Packaged Software | Spark

Pivotal Services Marketplace

Pivotal and Partner Products

Open Service Broker API

Public Cloud Services

Customer Managed Services

CLOUD FOUNDRY
BOSH

Embedded OS
(Windows & Linux)

NSX-T

"3Rs"

Repair — CVEs

Repave

Rotate — Credhub

CPI (15 methods)

vSphere   Openstack   AWS   Google Cloud   Azure & Azure Stack

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From 37% availability to $440m in back taxes

Before

Overview by Year		
YEAR	STATUS	AMOUNT
2014	Balance Due	$644 >
2013	Taxes Paid	$685 >
2012	Refund/Applied	$100 >
2011	No Information Available	--

After

Overview by Year	
YEAR	BALANCE DUE
2014	$644.00 >
2013	$0.00
2012	$0.00
2011	No Return on File >

- **User-centric, small batch**

- **Only 37% of calls answered, shrinking budgets**

- **From 2 year to 9 week releases**

- **2m+ users paid $440m in taxes**

IRS

Sources: "'Your IRS Wait Time is 3 Hours' - Is Lean Possible in Government?", Emily Price, Pivotal, April 2017; "Agile Transformation is Product Management," podcast, Oct 2017; "Minimum Viable Taxes: Lessons learned building an MVP inside the IRS," slides, Andrea Schneider & Lauren Gilchrist, 2015. See another write-up.

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Product teams go from coding 20% to 90% of the time

Sources: VW; "Don't Forget People and Process in Your Digital Transformation," *The New Stack*, March 2017.

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Engineering

Extreme Programming

Building working software at a consistent speed and quality in the face of changing requirements.

PRACTICES

- Pair Programming
- Test-Driven Development
- Short iterations
- Continuous Integration / Continuous Deployment

Design

User Centered Design

Ensuring the software solves a real problem for real users in a desirable and usable product.

PRACTICES

- User Interviews
- Ethnographic studies
- Persona definition
- Prototype creation

Product Management

Lean

Reducing the risk of building the wrong thing while comfortably changing direction.

PRACTICES

- Minimum Viable Product (MVP) definition
- Lean experiments
- Identify & test assumptions
- Data driven decisions

Data Science

Data Driven

Informed decision making through data to improve the viability of the product

PRACTICES

- Artificial Intelligence
- Data discovery
- Preventative analytics
- Personalisation
- Natural language analysis

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Allstate today - Culture

The most dangerous phrase in the language is "We've always done it this way."

Rear Admiral Grace Hopper

- Lack of ownership and accountability
- Fragmentation of product ownership
- Unwieldy governance
- Strong aversion to risk
- Entrenched solutions for every problem

infrastructure **Services**
Driving iT

Developing the Freedom to Disrupt

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Without persistent, present leadership, nothing will change

Winning (and keeping) hearts and minds.

| 1 CREATE A SENSE OF URGENCY | 2 BUILD A GUIDING COALITION | 3 FORM A STRATEGIC VISION & INITIATIVES | 4 ENLIST A VOLUNTEER ARMY | 5 ENABLE ACTION BY REMOVING BARRIERS | 6 GENERATE SHORT-TERM WINS | 7 SUSTAIN ACCELERATION | 8 INSTITUTE CHANGE |

- Sponsorship and stakeholder engagement
- Exemplars; assessment and maturity modeling
- Mapping the journey [Individual, Team, Initiative, Enterprise]

- Storytelling [AS-IS — TO-BE]
- Reporting inside & outside the teams

- **A sense of urgency**
- **Building coalitions**
- **Building on small, successes**
- **Holding back corporate sappers**
- **Persistent, ongoing mandating, management**

west®

T · · Mobile ·
(USA)

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"Start your project on Monday and ship it on Friday. No longer it's going to take 9 months."

- **CompoZed Labs now handles 40% of Allstate's software development**

- **Road-side assistance app delivered in 6 months**

  - **25k rescues/month**

  - **30 minute wait to 15**

  - **+$10m, +$100m planned**

Sources: Andy Zitney; "Don't Forget People and Process in Your Digital Transformation," Allstate case study, March, 2017; "How Insurance Giant Allstate Is Using Cloud Tech to Build New Businesses," Barb Darrow, June, 2017; "Allstate Technology Chief Develops The Uber Of Roadside Assistance," Perer High, Oct, 2017.

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http://cote.io/cloud2

Next steps

1. Visit Pivotal Labs – Berlin, Paris, London, Dallas, Chicago, San Francisco, NYC, Denver, Singapore, Tokoyo, etc.

2. Talk with Pivotal customers.

3. PoC's – 10 week new apps & modernization, targeting mobile app transformation, new apps.

4. More PDFs & customers videos than you can stay awake to read.

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SpringOne Platform
by Pivotal

September 24–27, 2018
Washington DC
Gaylord, National Harbor

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"We are uncovering better ways of developing software by doing it and helping others do it."

- *The Agile Manifesto*, 2001

Thanks!

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