HERDING CATS, ENTERPRISE CHAOS, AND EMBRACING THE CLOUD

Jesse Duke
Principal Architect, Delta Air Lines, Inc.

THIS IS *OUR* JOURNEY, BUT IT IS NOT ONLY *OUR* JOURNEY

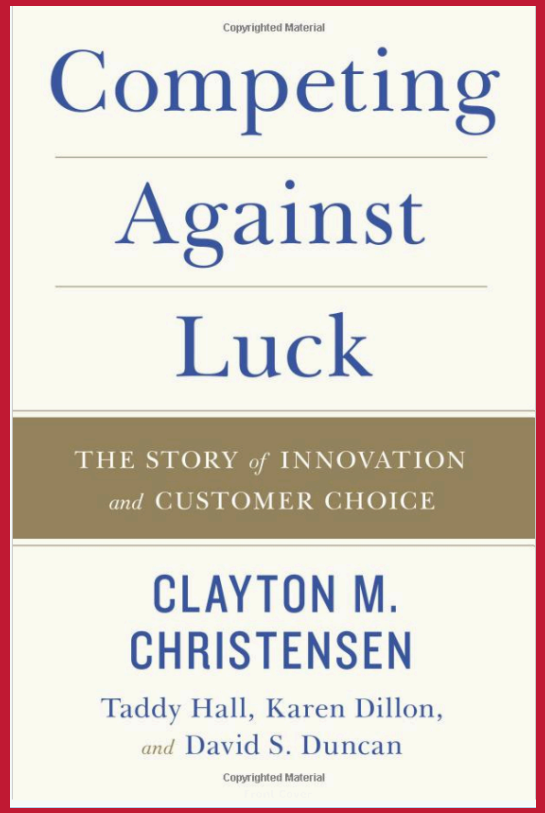
DELTA

HERDING CATS: THE VISIONARIES

- ✓ strong **vision** to see the possible
- ✓ rely on their own **intuition and vision**
- ✓ no fear of being **the first**
- ✓ **ok with bugs and challenges** with new products
- ✓ do not tend to be "**herd animals"**
- ✓ "great deeds, and when there are **no more great deeds to be done, they want to move on**. Their brilliance fuels the early market"

Moore, Geoffrey A.. Crossing the Chasm, 3rd Edition (Collins Business Essentials) (p. 226). HarperBusiness. Kindle Edition.

NEED
WE ALL HAVE
"JOBS TO BE DONE"



A Common Vision & Business Case

Security, Reliability, Business Agility,
Velocity of Delivery ("Speed Kills") , Innovation

DEFECTS

OVERPRODUCTION

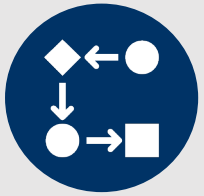
WAITING

NON-
USED
TALENT

TRANSPORTATION

INVENTORY

MOTION


EXTRA-
PROCESSING

Red Hat

FINDING YOUR TRUSTED PARTNER

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PATTERNS IN MODERNIZING WORKLOADS

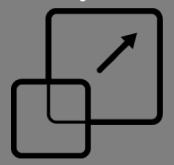
3 MAIN PATTERNS

REHOST

- **Containerize** existing workloads
- Deploy them on a **PaaS**
- Keep external integrations and data on legacy
- Legacy applications have to be well written and suited

REPLATFORM

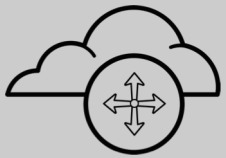
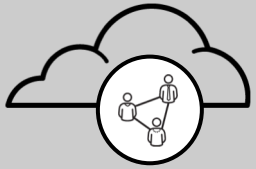
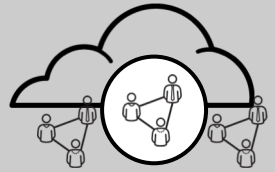
- **Legacy remains intact**
- New layer - new capabilities
- Deploy on **PaaS**
- **New integration points** between legacy and new layers **(Need for Agile Integration)**



REFACTOR

- **Legacy is totally replaced**
- New interfaces and data
- Use **PaaS** to run
- Some data and features can be re-wrapped, but mostly are retired.

Our Plan: MVP with Red Hat's Container Adoption Program (CAP)

	Year 1			Year 2			Years 3-5
	Months 1-4	Months 5-8	Months 9-12	Months 13-16	Months 17-20	Months 21-24	
BEGIN → Discovery Session	**Increment 1:** Align and Prove	**Increment 2:** Prepare	 **Increment 3:** Expand	**Increment 4:** Accelerate	**Increment 5:** Optimize	 **Increment 6:** Self-Sustain	 **Increment 7+** Mass Adoption
	Demonstrate value of containers	Prepare to expand containers at scale	Expand container adoption and engage the community	Accelerate container adoption through repeatable patterns	Refine patterns for increased cloud capability and automation efficiency	Achieve distributed subject matter expertise in container orchestration and cloud-optimized development	Mass migration of applications to containers and cloud-optimized development
Infrastructure	Production MVP Release 1	Production Release 2	Production Release 3 fully operationalized	Customer-Led Platform Ops & Maintenance	Platform Upgrades and Expanded Automation	Platform Upgrades and Expanded Automation	Platform Upgrades and Expanded Automation
Release Management	Standard CI/CD	Customized CI/CD Pipeline	Increased Automation, Test Integration, and Reporting	Increased Automation, Test Integration, and Reporting	Pipeline Analysis and Associated Process Optimization	Pipeline Analysis and Associated Process Optimization	Pipeline Analysis and Associated Process Optimization
Application Development	1st App/Team Onboarded **Open Innovation Lab** Team 1	2nd App/Team Onboarded **Open Innovation Lab** Team 2	Modernization COE Creation of Container Development Enablement and App Migration Organization	Modernization COE Planning and prioritization for large-scale migration of workloads to containers	**Modernization COE** Transition of App Onboarding to Application Teams	**Modernization COE** Regional COE Creation to Scale Out and Support Mass Adoption of Containers	**Modernization COE** Application support to regional Dojos

Red Hat Education Services

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https://flic.kr/p/2hPFRVm

"EVERYONE HAS A PLAN UNTIL THEY GET PUNCHED IN THE MOUTH"

Mike Tyson

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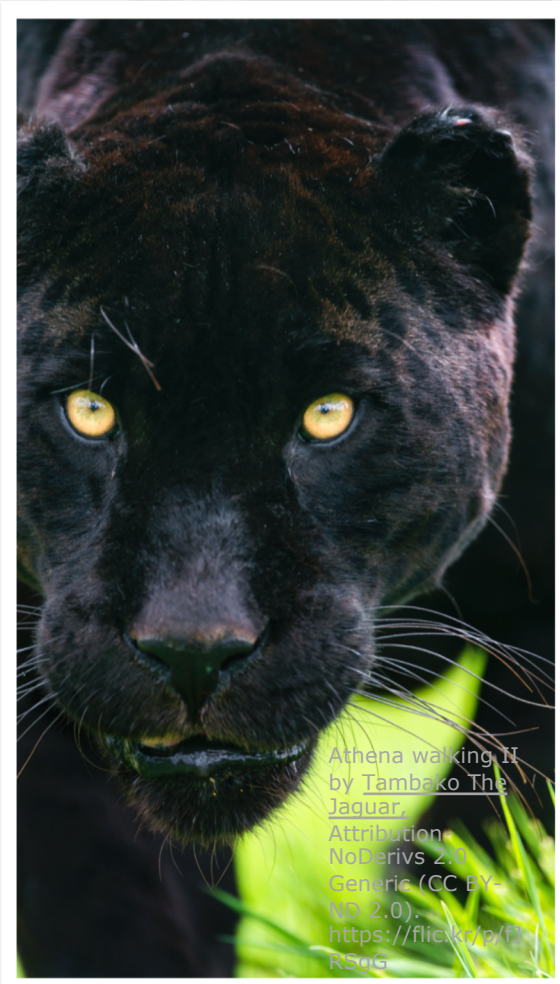
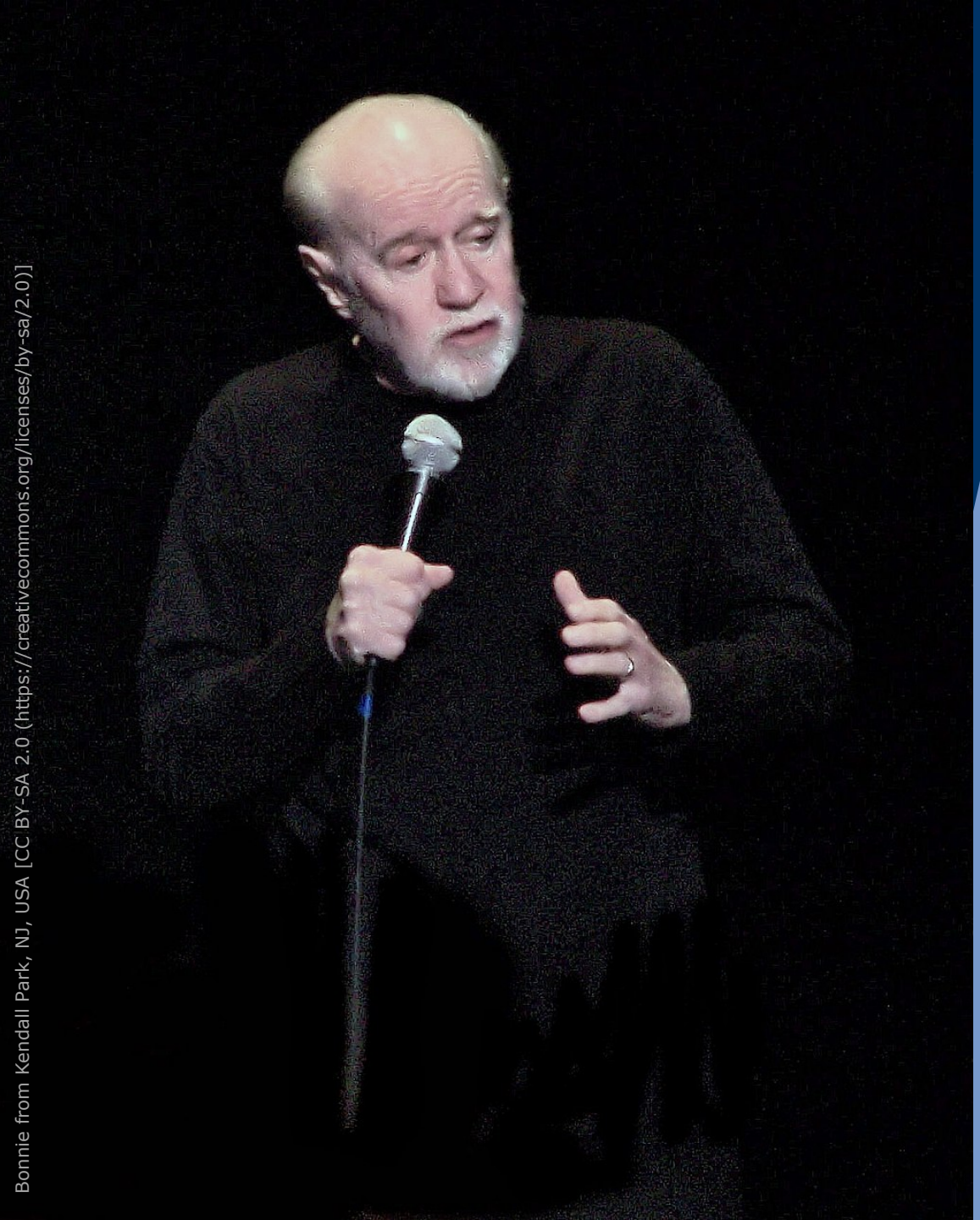
THE CHALLENGE: PACK ANIMALS

A PACK MENTALITY OF EXTREME LOYALTY AND DEVOTION TO THE GROUP BINDS THE WOLVES TOGETHER AS A UNIT, DESPITE TIMES OF SCARCE PREY OR VIOLENCE."





Bonnie from Kendall Park, NJ, USA [CC BY-SA 2.0 (https://creativecommons.org/licenses/by-sa/2.0)]

"Have you noticed that their stuff is CRAP and your CRAP* is stuff ?"*

George Carlin

* But 'crap' is not what he said

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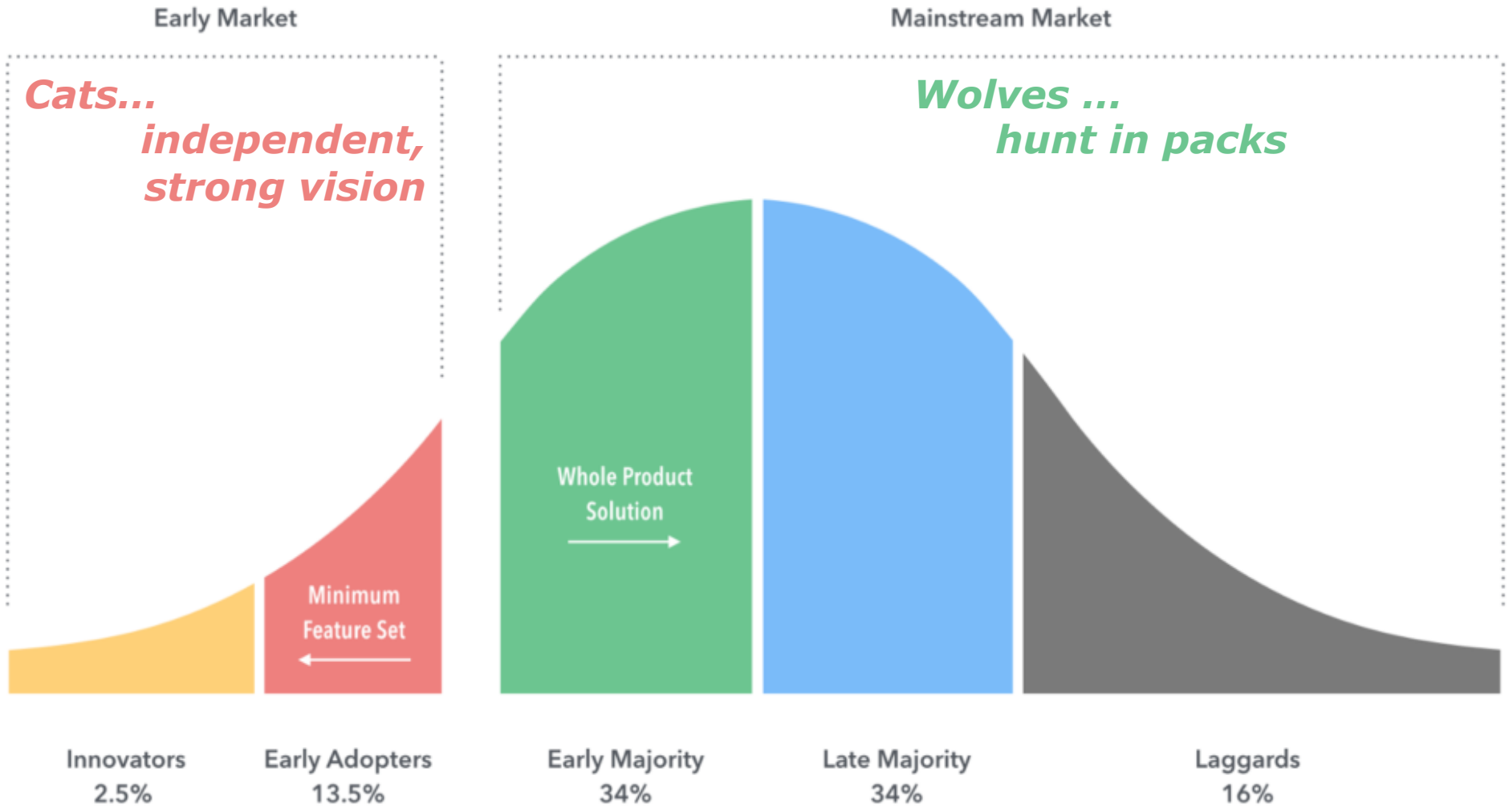

THE MODEL: CROSSING THE CHASM
BY GEOFFREY MOORE

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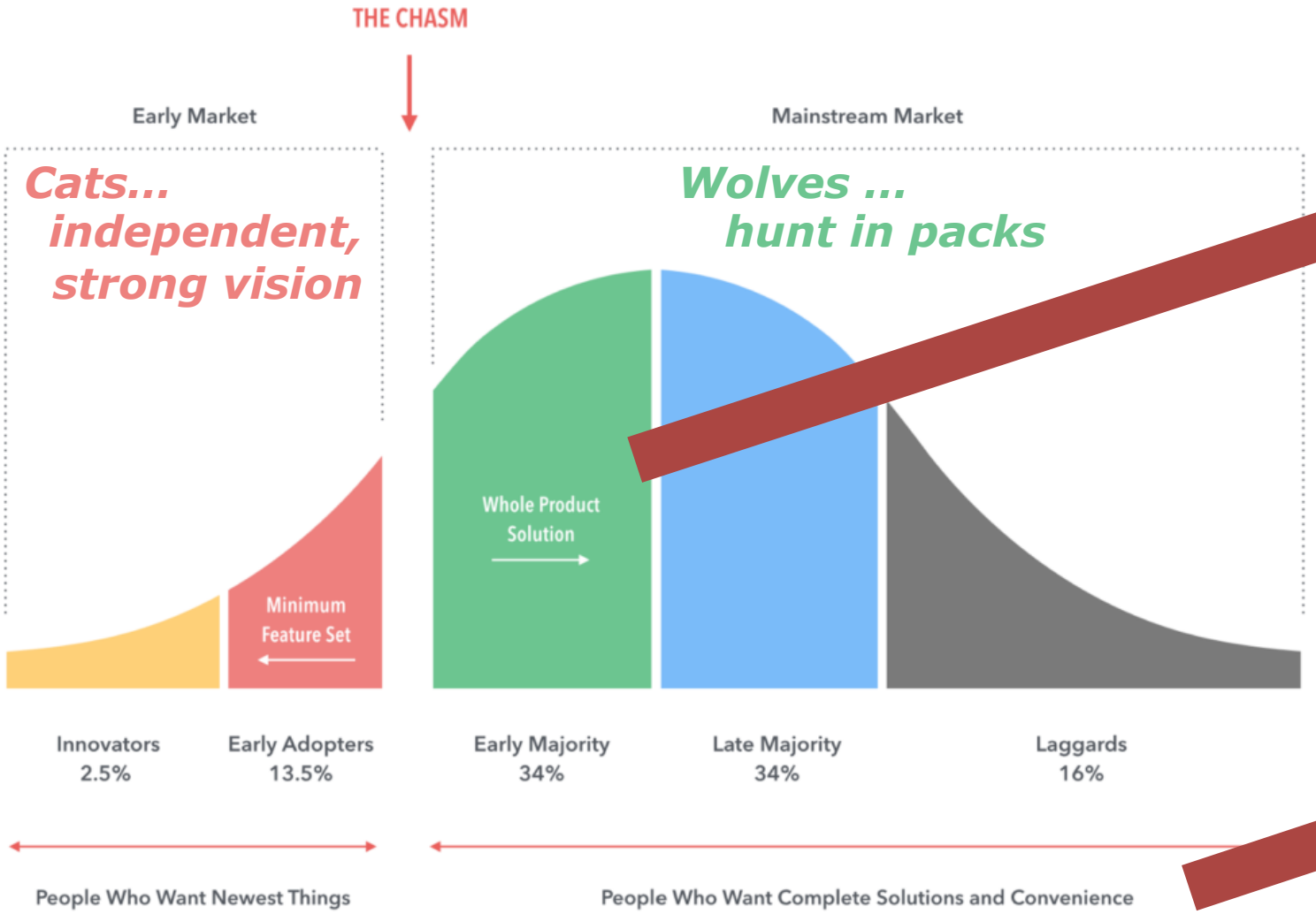
THE ANSWER: EARLY/LATE MAJORITIES



Whole Product Solution

People Who Want Complete Solutions and Convenience

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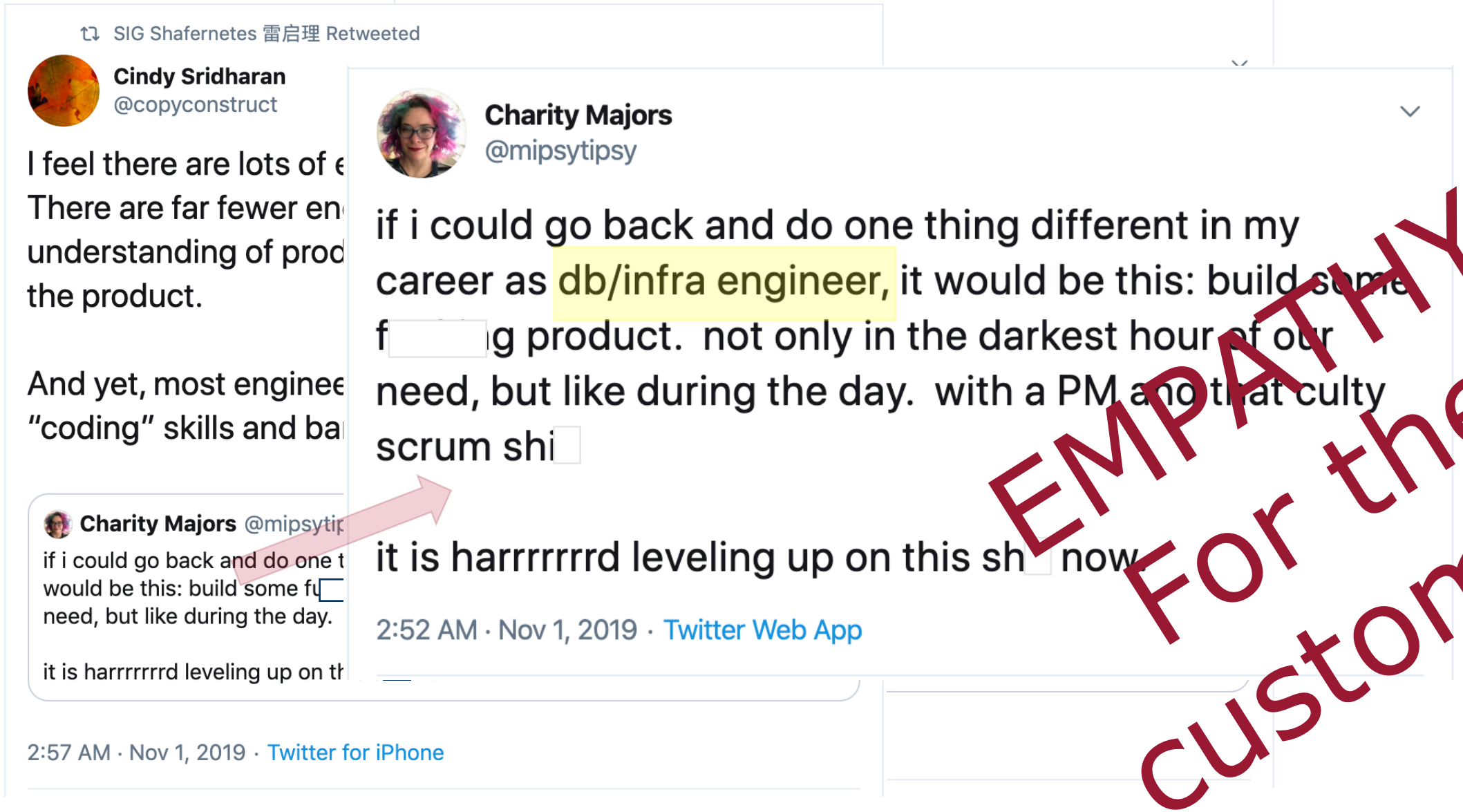
PRODUCT … HARDER THAN WE THINK



EMPATHY For the customer!

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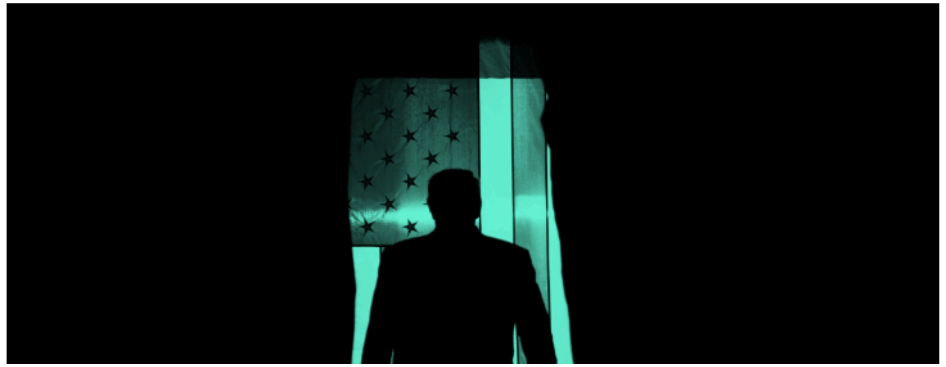
WIRED BUSINESS CULTURE GEAR IDEAS SCIENCE SECURITY TRANSPORTATION

ROBERT WRIGHT IDEAS 11.09.2019 12:45 PM

Empathy Is Tearing Us Apart

Americans are as polarized as they've ever been. Could the problem be that we're caring for each other too much?



"empathic concern does not reduce partisan animosity in the electorate and in some respects even exacerbates it."

American Political Science Review, Published online by Cambridge University Press: 31 October 2019

Adam Grant
@AdamMGrant

It doesn't matter how much empathy you feel for your group if it leads you to devalue other groups.

We need more rational compassion: reflective concern for people different from us.

You don't have to share their feelings to care about their feelings.

Empathy Is Tearing Us Apart

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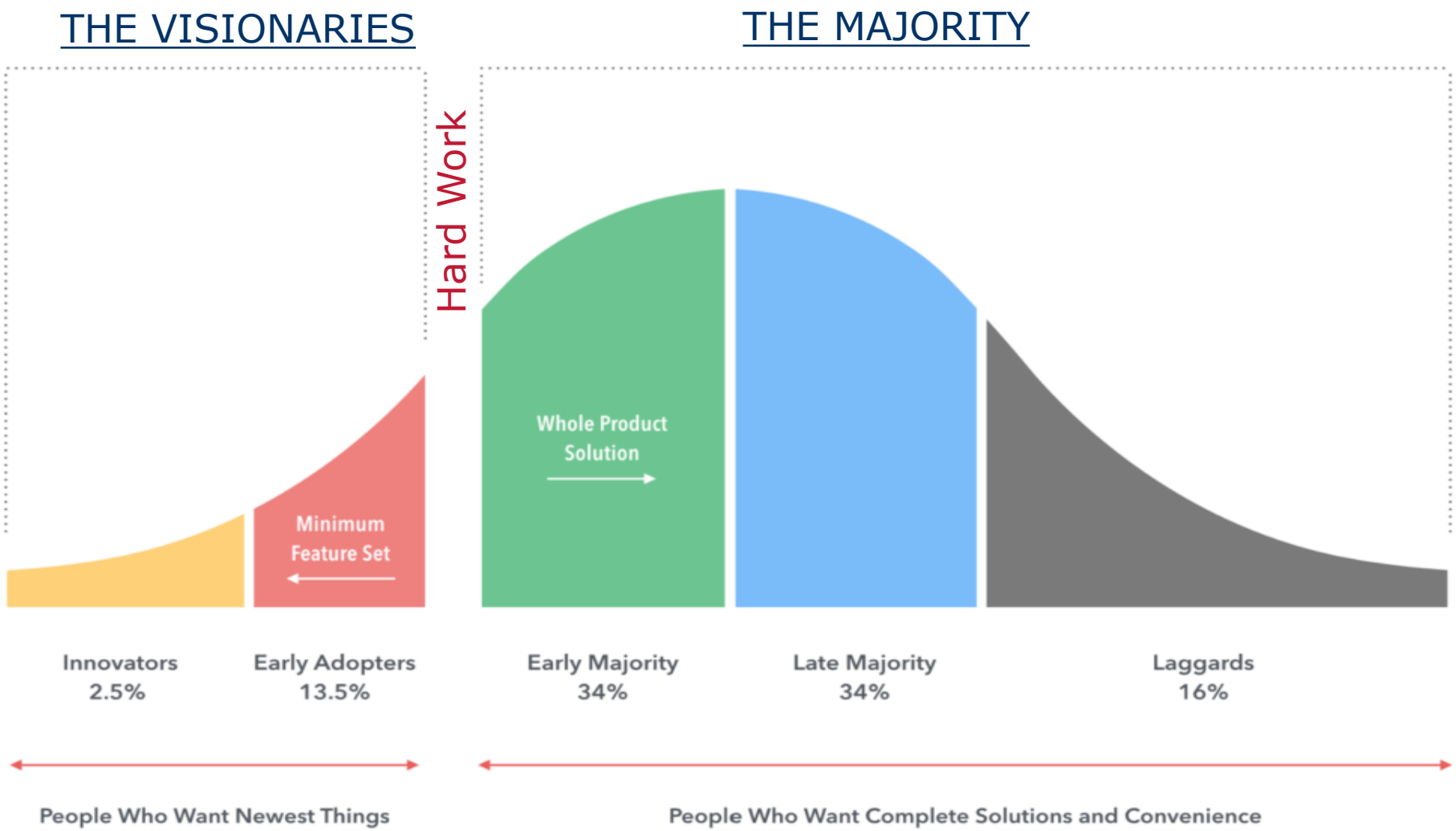
THE VALUES: EARLY/LATE MAJORITIES



THE VALUES: EARLY/LATE MAJORITIES

THE VISIONARIES

- ✓ strong **vision** to see the possible
- ✓ rely on their own **intuition and vision**
- ✓ no fear of being **the first**
- ✓ **ok with bugs and challenges** with new products
- ✓ "great deeds, and when there are **no more great deeds to be done, they want to move on**. Their brilliance fuels the early market"

THE MAJORITY

- ✓ *driven by a strong sense of **practicality***
- ✓ ***enhance**, not overthrow*
- ✓ ***buy** a productivity improvement for existing operations*
- ✓ want **evolution**, not revolution
- ✓ **wait** until something has become an established standard
- ✓ take pride in **better product experience** through ease of adoption and stability

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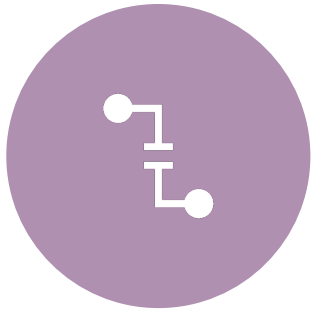
WHOLE PRODUCTS: STANDARDS AND GUIDANCE

Don’t confuse OpenShift as ‘*our*’ product

REVISIT MVP DECISIONS

TECHNOLOGY MARKETPLACE

MAROON MANDATE



STANDARDS, MODELS, AND EXAMPLES

Make the disruptive, non-disruptive

REVISIT MVP DECISIONS

Networking by Kreg Steppe, Attribution-S
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ey by david pacey Attribution 2.0
eric (CC BY 2.0)
s://flic.kr/p/bn4oq2

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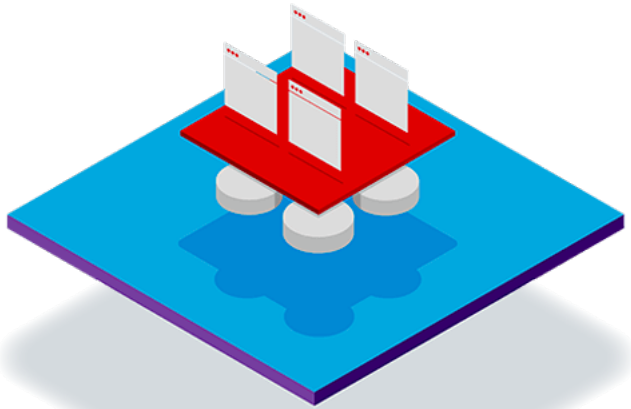
Secret Sauce: Technology Marketplace

GitLab

OpenJDK

Red Hat Middleware



NGINX

OWASP
Open Web Application Security Project

Jenkins

Welcome to OperatorHub.io

OperatorHub.io is a new home for the Kubernetes community to share Operators. Find an existing Operator or list your own today.

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- Cloud Native & 12-Factor Design
- API First
- Security by Design
- Data as a Service
- Agile in Delivery
- Thin Channels
- DevOps
- Application Telemetry Data
- Reference Architectures
- Enterprise Architecture Review Board

MAROON MANDATE:
TECHNOLOGY ARCHITECTURE VISION & FRAMEWORK

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STANDARDS, AUTOMATION, AND EXAMPLES

STANDARD CI/CD:

JENKINS PIPELINES

W/ REUSABLE LIBRARIES

INCREASING VISIBILITY (TELEMETRY & **LOGGING STANDARDS**)

AUTOMATION ENABLING BEST PRACTICES: TLS CERTIFICATE MANAGEMENT VIA K8S OPERATOR

QUICK START APPLICATIONS BASED UPON PATTERNS

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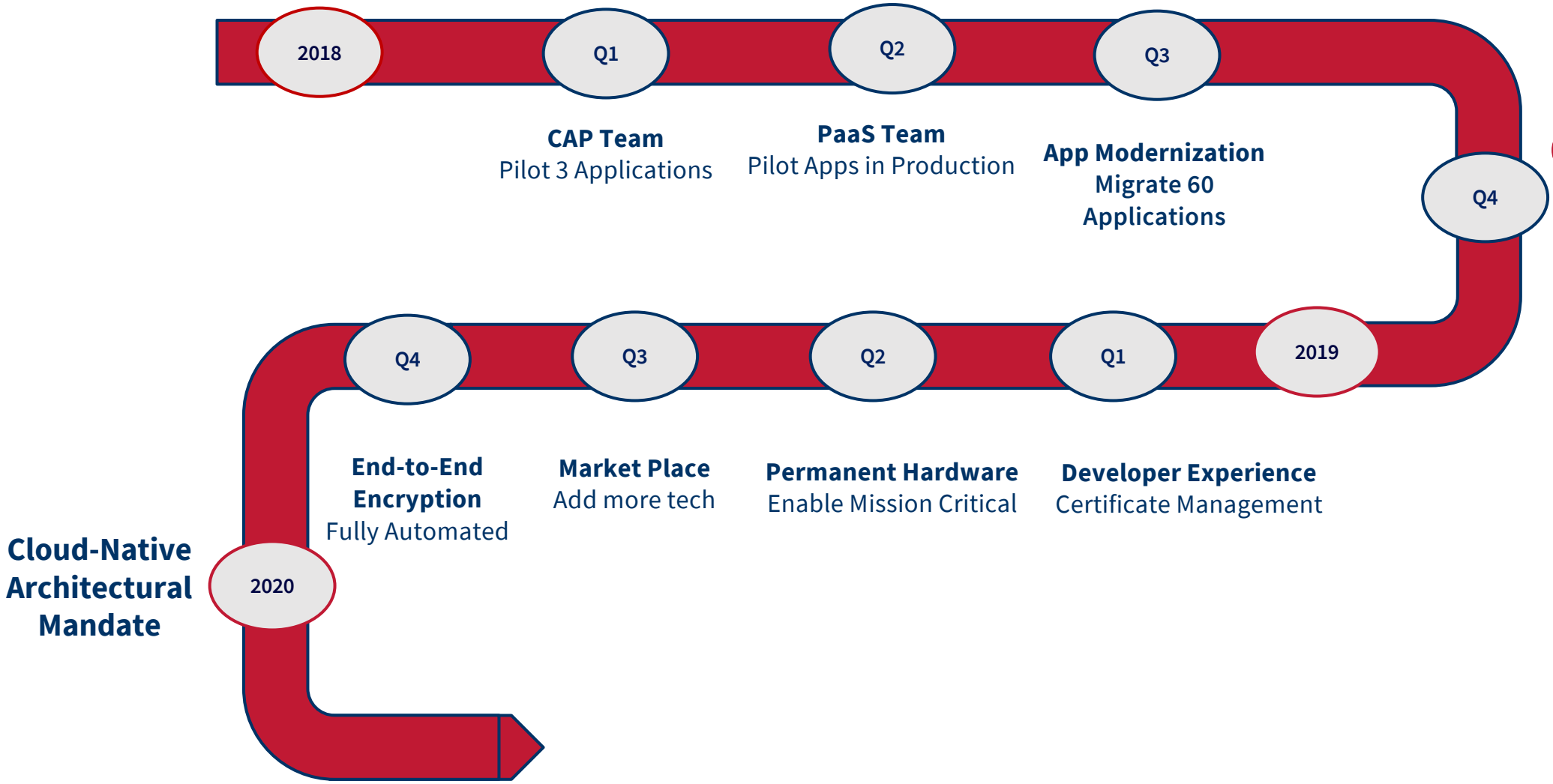
Cloud Journey & Community



PaaS Community

#paas and PaaSport

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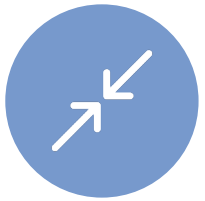
Lessons Learned in Summary

Visionary values are very different than the majority



Rally visionaries on a common value

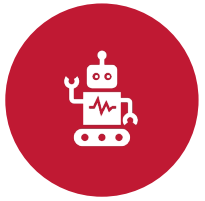
Find the right technology partner

Minimal Viable Product (MVP)

Revisit MVP: "whole product" approach rooted in empathy *for the target consumers*

Don't be afraid to fail (i.e., learn & pivot)

Standards, Automation, and examples



Work to take the disruptive to non-disruptive

Senior Leadership support

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A PARTING WORD….

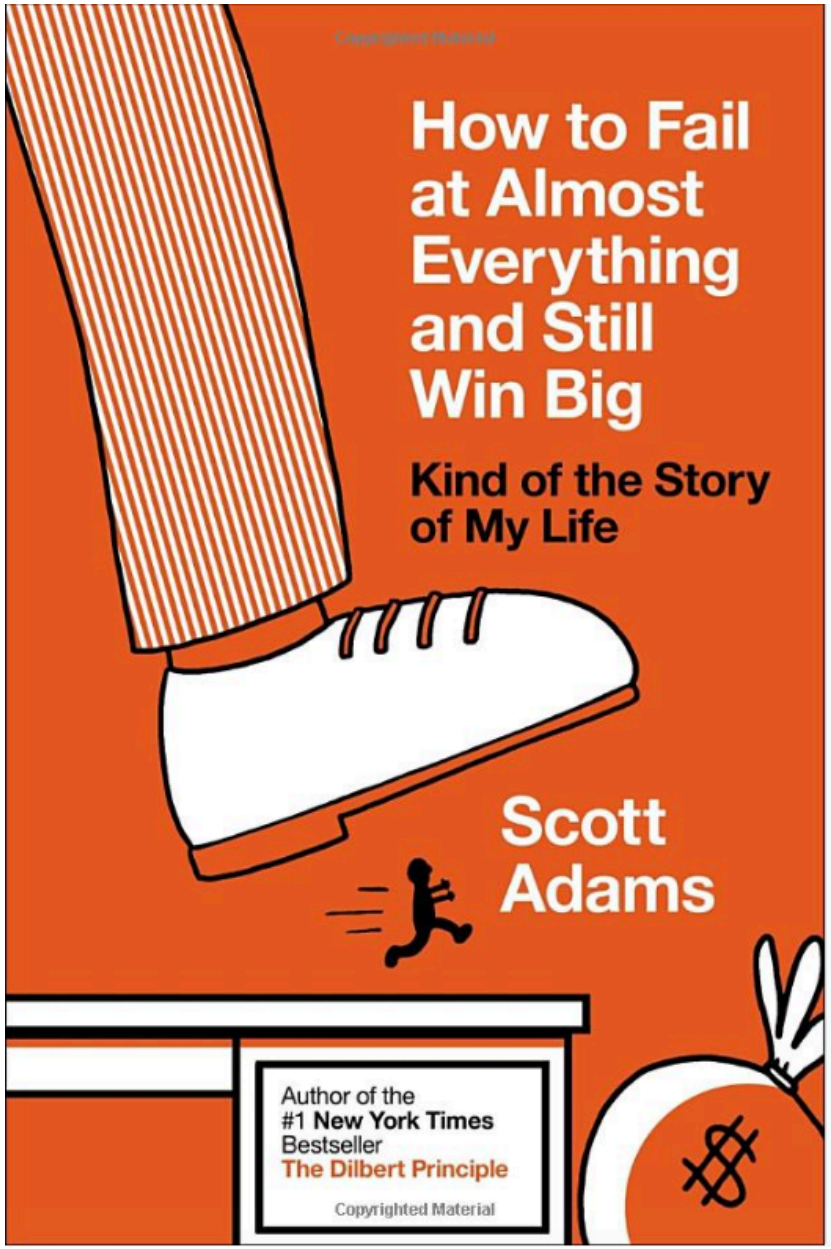
"POST-CHASM ENTERPRISE IS BOUND BY THE COMMITMENTS MADE BY THE PRE-CHASM ENTERPRISE"

GEOFFREY MOORE

DELTA

"How to Fail at Almost Everything and Still Win Big: Kind of the Story of My Life",

Scott Adams



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