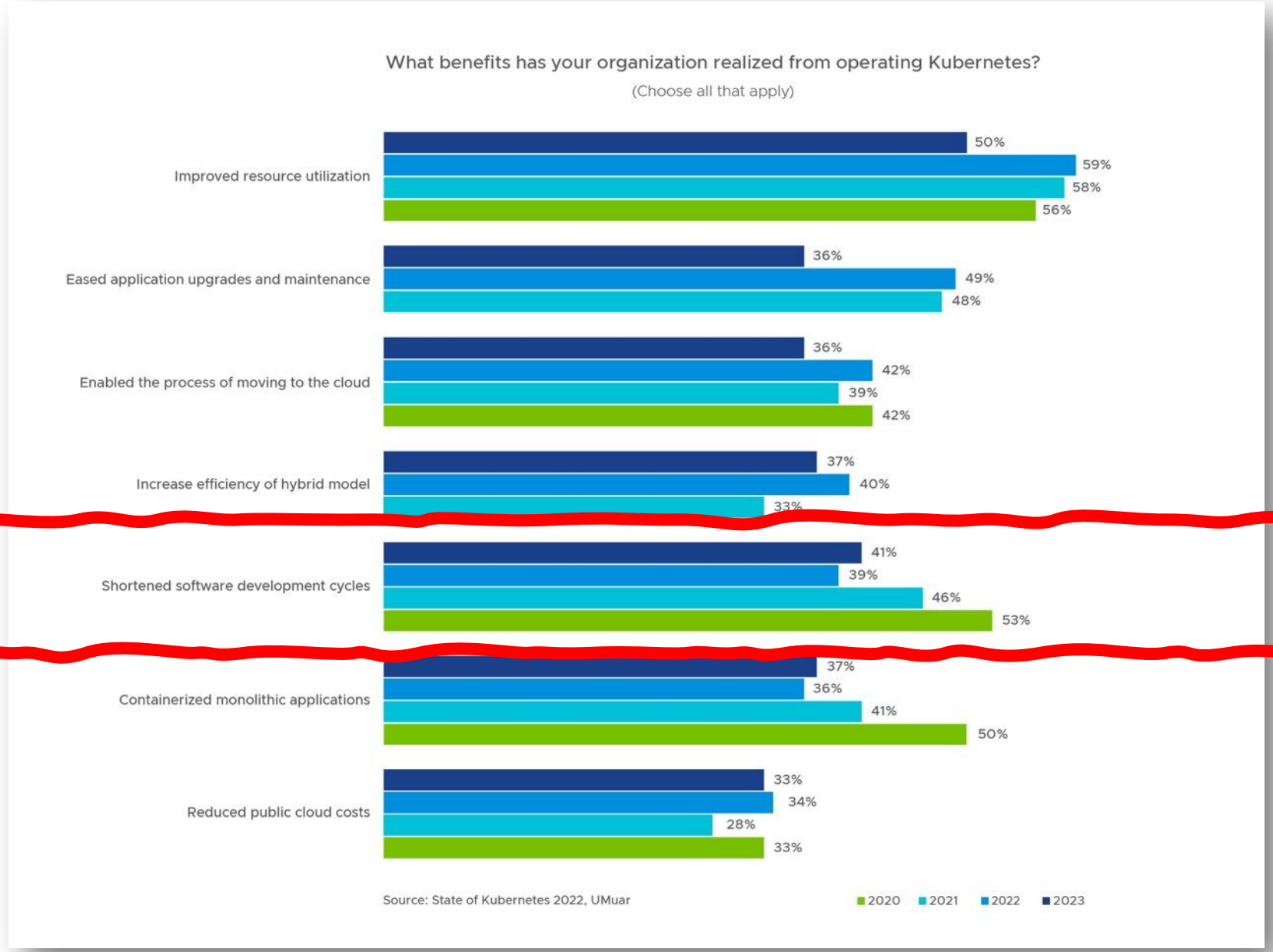
7 Lessons from 7 Years of Running Platforms

Coté

September, 2023



Source: State of Kubernetes survey, VMware, 2023.

Lessons learned from supporting 1,500+ application at JP Morgan Chase

A Successful Developer Experience (1/2)

1. Customer Focus: Treat internal developers like clients
2. Build, nourish and embrace a community around your platforms
3. Focus on end-to-end & deliver an integrated experience
4. Culture is critical
5. Cloud Blueprints
6. Cloud Parties
7. Self-service everything

Build a customer-centre culture.
"15 Proven Techniques to Improve Customer Experience (CX)"
Blog by Snigdha Patel on the revechat.com platform

JPMorgan Chase

A Successful Developer Experience (2/2)

8. Clear responsibility model, boundaries and platform contract
9. Operationally stable, reliable, and has well-defined SLOs
10. Inherently secure
11. Streamline tooling for CI/CD
12. Enable innovation through managing risk
13. Automate, automate, automate!
14. Short time to Hello World!
15. Partner for success

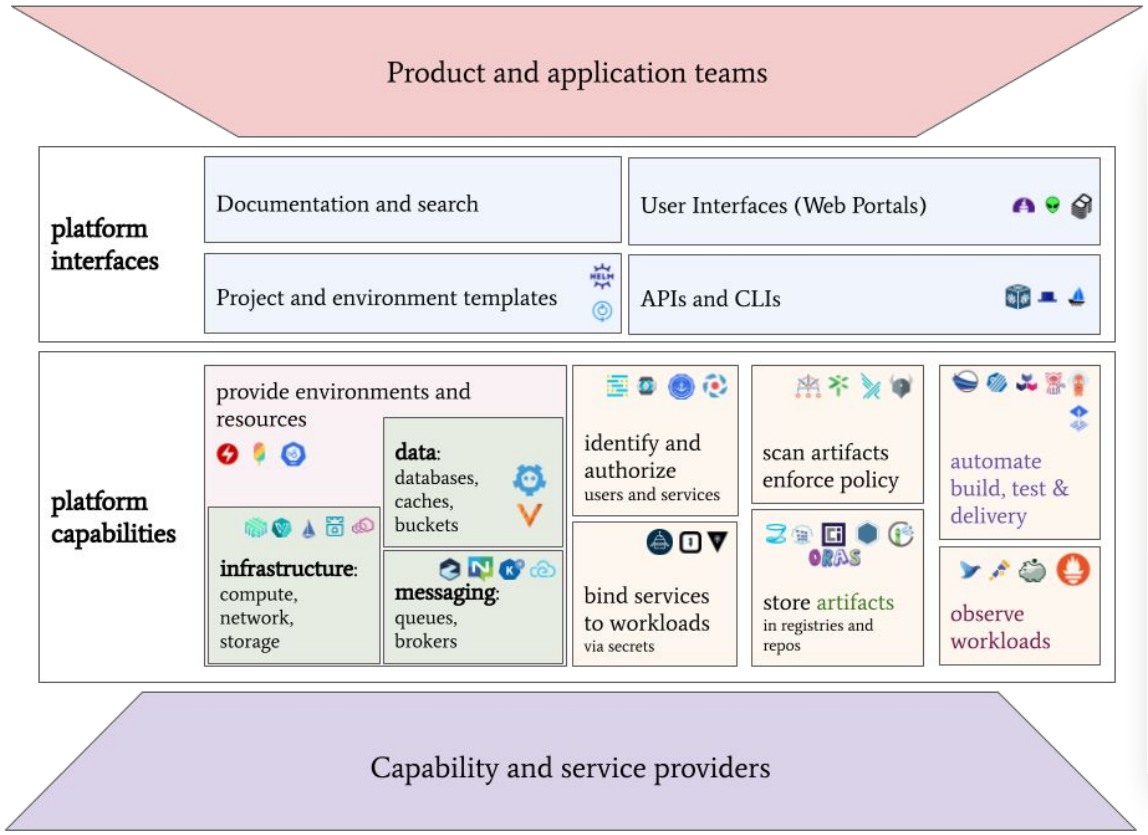
JPMorgan Chase

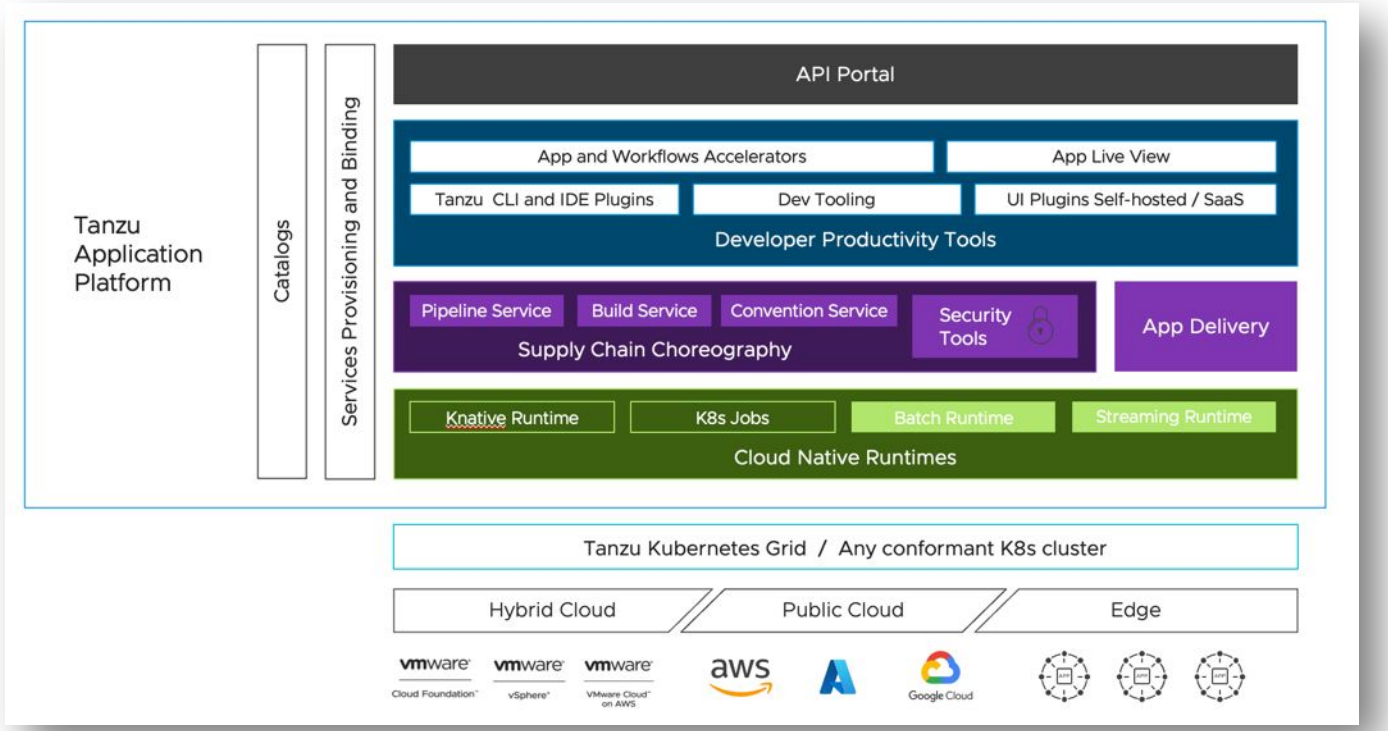
Source: "Improving JPMorgan Chase's Developer Experience on the Cloud," Nadi Away, JPMC, June 2022.

Hello, I am Coté.

I work at vmware®

More: https://cote.io





Sources: CNCF Platforms White Paper and Oct 2022 diagram draft; VMware Tanzu Application Platform.

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"We are building this platform not for us, we are building it for Mercedes-Benz developers."

Thomas Müller, Mercedes-Benz

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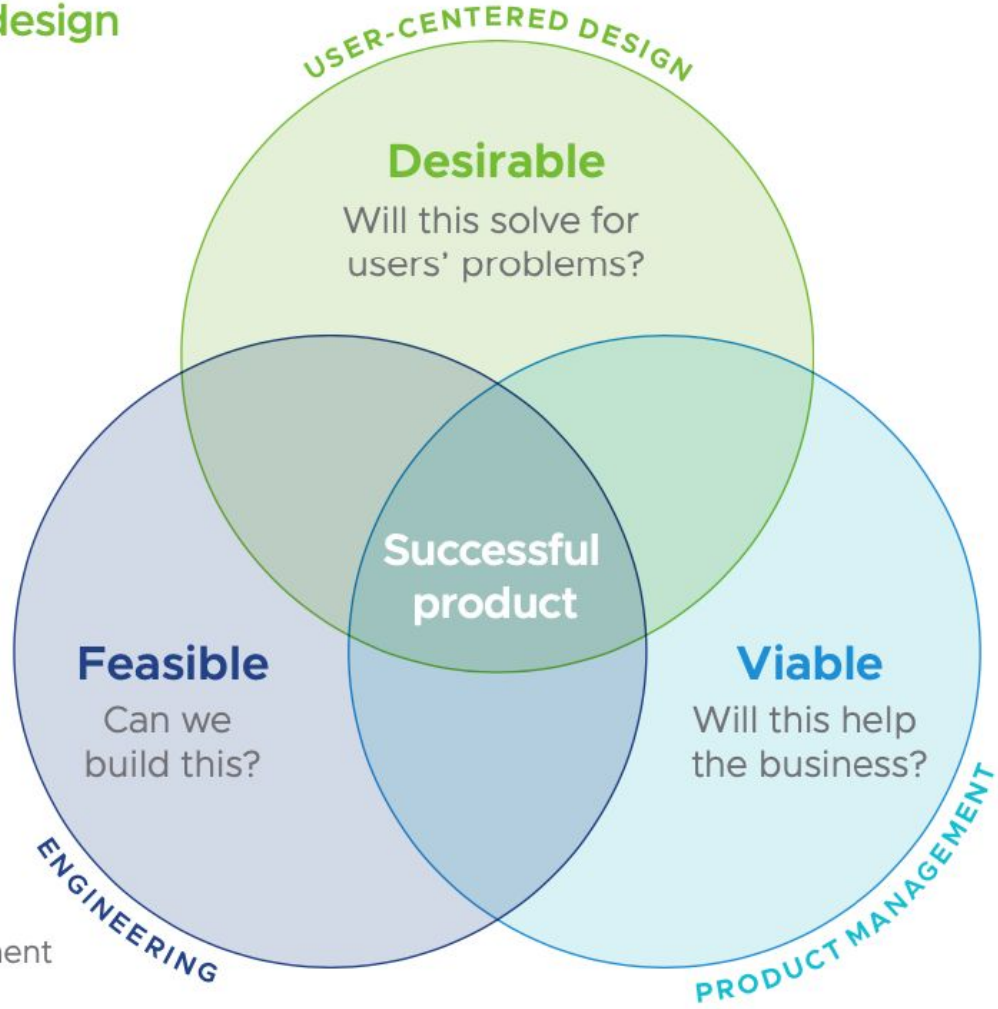
User-centered design

ACTIVITIES:

User interviews
Ethnography
Define personas
Usability testing
Service Design
UI / UX
Visual design



Agile / XP

ACTIVITIES:

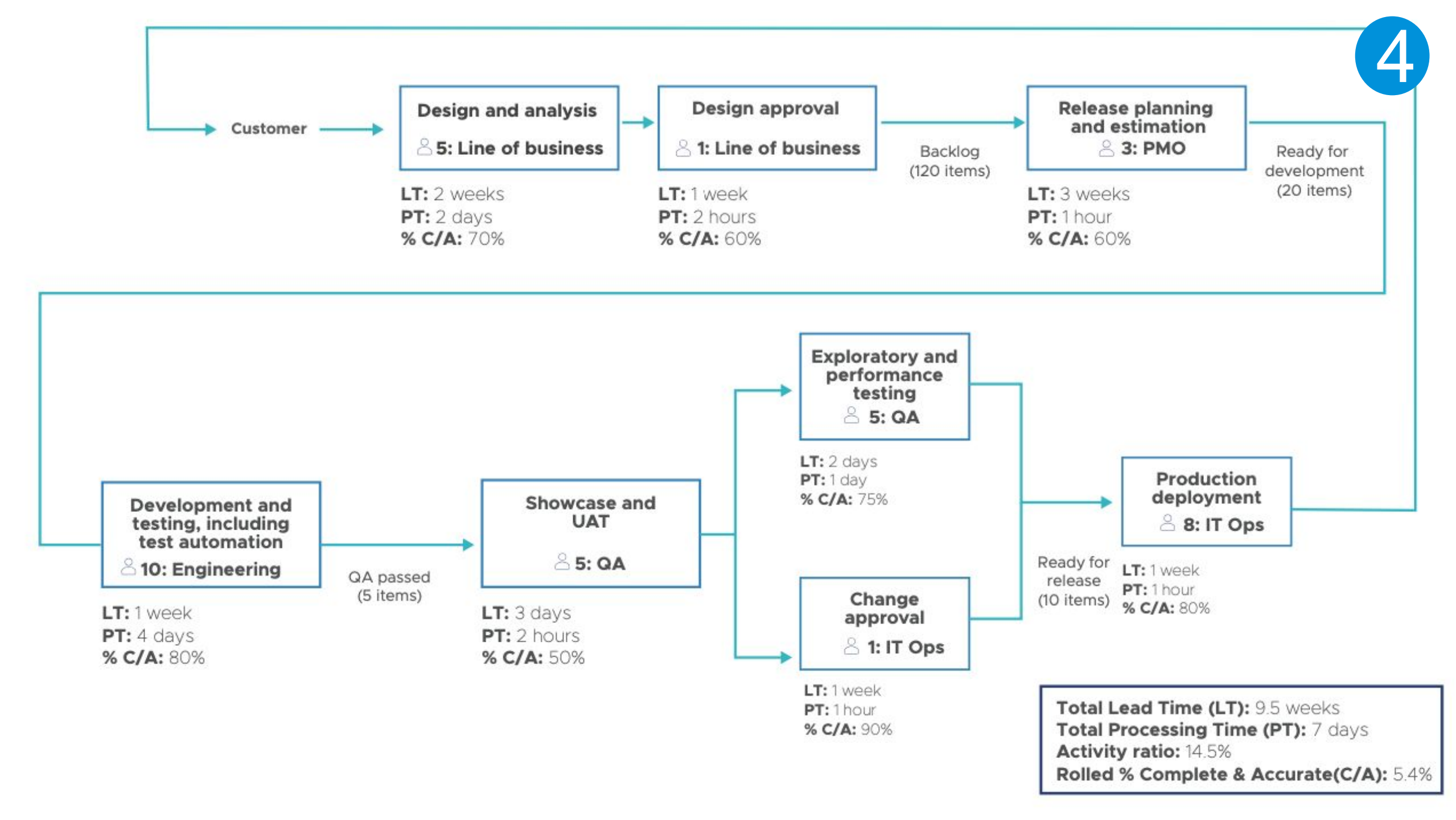
Test-driven development
Pair programming
Evolutionary design
Collective code ownership
Retros
Short interations
CI / CD

Lean Startup

ACTIVITIES:

Define product vision, strategy and roadmap
Define business model
Define minumum viable product
Identify and test assumptions
Release real product often
Understand customers
Adjust direction based on data
Constrain resources and time

Sources: "The Product Manager Playbook," VMware Tanzu Labs.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Customer
Design and analysis
5: Line of business
LT: 2 weeks
PT: 2 days
% C/A: 70%
Design approval
1: Line of business
LT: 1 week
PT: 2 hours
% C/A: 60%
Backlog
(120 items)
Release planning and estimation
3: PMO
LT: 3 weeks
PT: 1 hour
% C/A: 60%
Ready for development
(20 items)
Development and testing, including test automation
10: Engineering
LT: 1 week
PT: 4 days
% C/A: 80%
QA passed
(5 items)
Showcase and UAT
5: QA
LT: 3 days
PT: 2 hours
% C/A: 50%
Exploratory and performance testing
5: QA
LT: 2 days
PT: 1 day
% C/A: 75%
Change approval
1: IT Ops
LT: 1 week
PT: 1 hour
% C/A: 90%
Ready for release
(10 items)
Production deployment
8: IT Ops
LT: 1 week
PT: 1 hour
% C/A: 80%
Total Lead Time (LT): 9.5 weeks
Total Processing Time (PT): 7 days
Activity ratio: 14.5%
Rolled % Complete & Accurate(C/A): 5.4%

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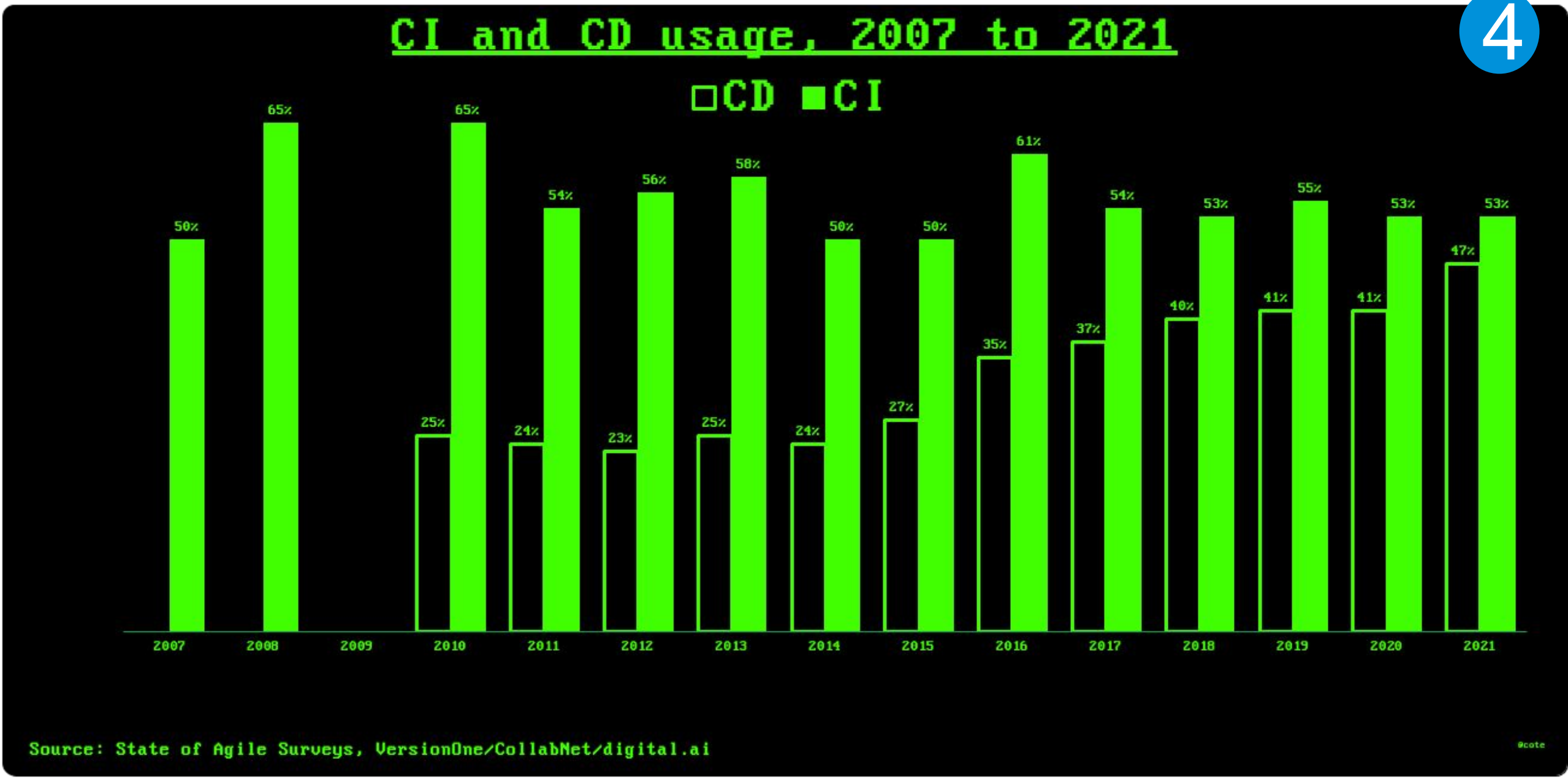
CI and CD usage, 2007 to 2021



Source: State of Agile Surveys, VersionOne/CollabNet/digital.ai

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Find the Developer Toil, Confusion, Blockers

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- What are we making?
- We have a strong vision for our product, and we're doing important work together every day to fulfill that vision.
- I have the context I need to confidently make changes while I'm working.
- I am proud of the work I have delivered so far for our product.
- I am learning things that I look forward to applying to future products.
- My workstation seems to disappear out from under me while I'm working.
- It's easy to get my workstation into the state I need to develop our product.
- What aspect of our workstation setup is painful?
- It's easy to run our software on my workstation while I'm developing it.
- I can boot our software up into the state I need with minimal effort.
- What aspect of running our software locally is painful? What could we do to make it less painful?
- It's easy to run our test suites and to author new ones.
- Tests are a stable, reliable, seamless part of my workflow.
- Test failures give me the feedback I need on the code I am writing.
- What aspect of production support is painful?
- We collaborate well with the teams whose software we integrate with.
- When necessary, it is within my power to request timely changes from other teams.
- I have the resources I need to test and code confidently against other teams' integration points.
- What aspect of integrating with other teams is painful?
- I'm rarely impacted by breaking changes from other tracks of work.
- We almost always catch broken tests and code before they're merged in.
- What aspect of committing changes is painful?
- Our release process (CI/CD) from source control to our story acceptance environment is fully automated.
- If the release process (CI/CD) fails, I'm confident something is truly wrong, and I know I'll be able to track down the problem.
- Our team releases new versions of our software as often as the business needs us to.
- We are meeting our service-level agreements with a minimum of unplanned work.
- When something is wrong in production, we reproduce and solve the problem in a lower environment.

Sources: "Developer Toil: The Hidden Tech Debt," Susie Forbath, Tyson McNulty, and Coté, August, 2022. See also Michael Galloway's interview questions for platform product managers.

Platform marketing, advocacy, consulting

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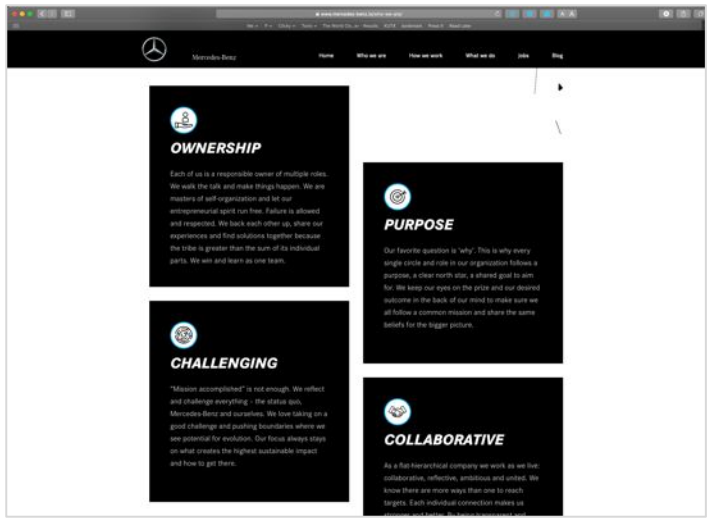

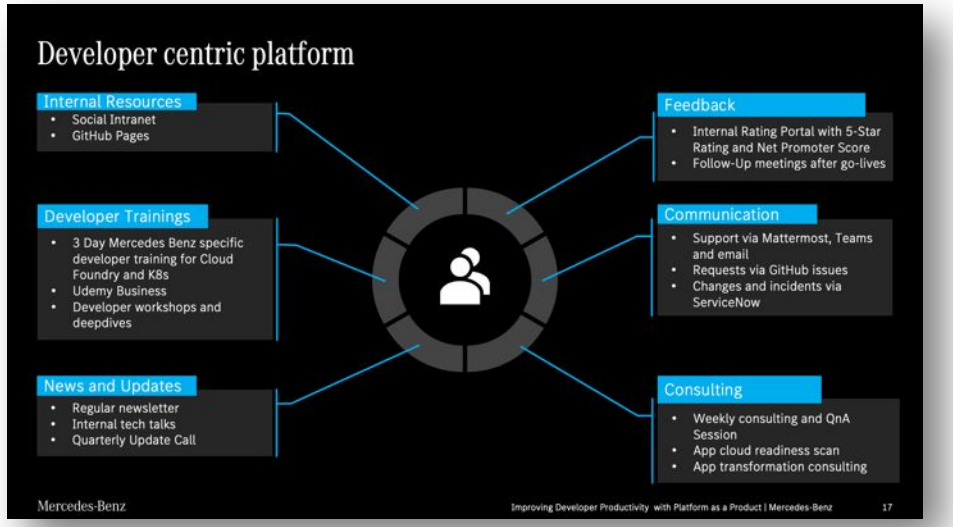

Sources: BT Canvas team; MB.io; Duke Energy; Allstate; "Take DevOps to 11 and Sprinkle Cloud on it with Rainbows and Unicorns," Matt Curry, s1p 2017. "Improve Developer Productivity with Platform as a Product," VMware Explore, Nov. 2022.

Initial Phase – Create the Platform with Developers

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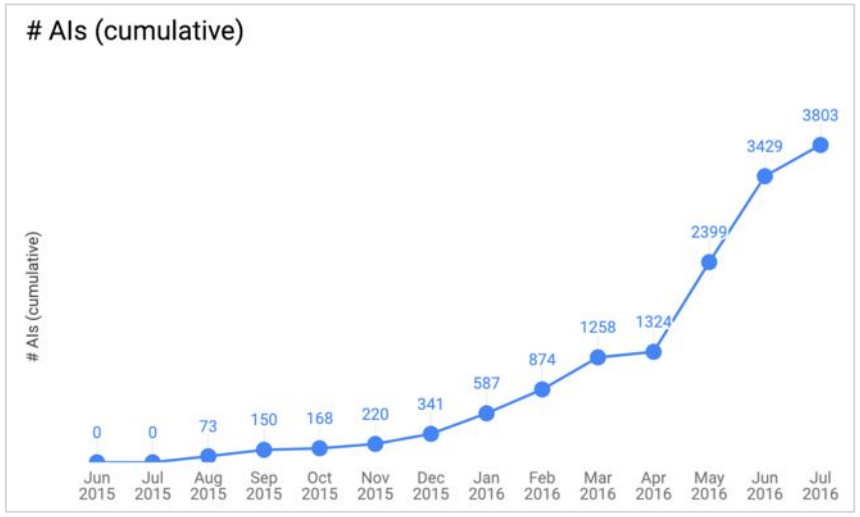
1. Platform team: owner, operators, engineers, advocate
2. Pick one app for business & technical feasibility.
3. Developer toil audit.
4. Find path to production with end-to-end value stream analysis
5. Start with pre-integrated platform, customize as you...
6. Build a golden path with the developer team.
7. Optionally, build an IDP as part of the platform.
8. Do this for 3 months.

Scaling Phase: Pairing & Seeding to build trust & training



1. Create platform marketing program.
2. Find two to five more apps.
3. Pair & seed from first dev & platform team to new teams.
4. "Shift Left" - build golden paths for governance, security, etc.
5. Add more infrastructure staff with pairing & seeding.
6. Do this for three months.
7. Repeat, growing number of apps as pairing & seeding allows.

Sources: "From 0 to 1000 Apps: The First Year of Cloud Foundry at The Home Depot," Anthony McCulley, The Home Depot, Aug 2016; "Cloud Native at The Home Depot, with Tony McCulley," Pivotal Conversations #45; USAF presentations and write-ups; "Driving Business Agility Without Large-Scale Transformation Programs," Venkatesh Arunachalam, Sep 2021; The Home Depot 2022[?]Q4 earnings call; *The Business Bottleneck*, Coté.

Thanks!

Slides & stuff

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