The journey to autonomous cloud management with Dynatrace

Software Intelligence Track

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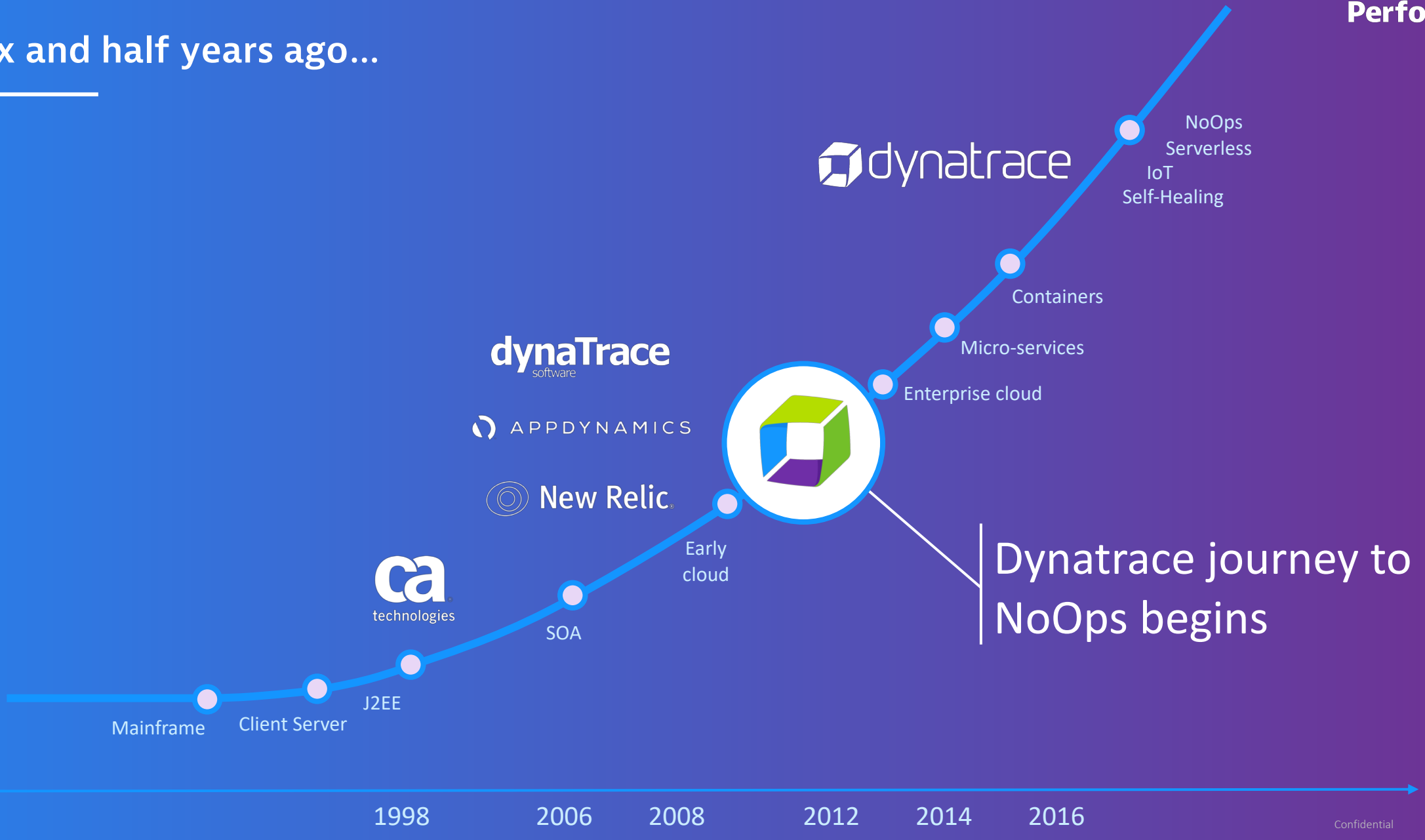
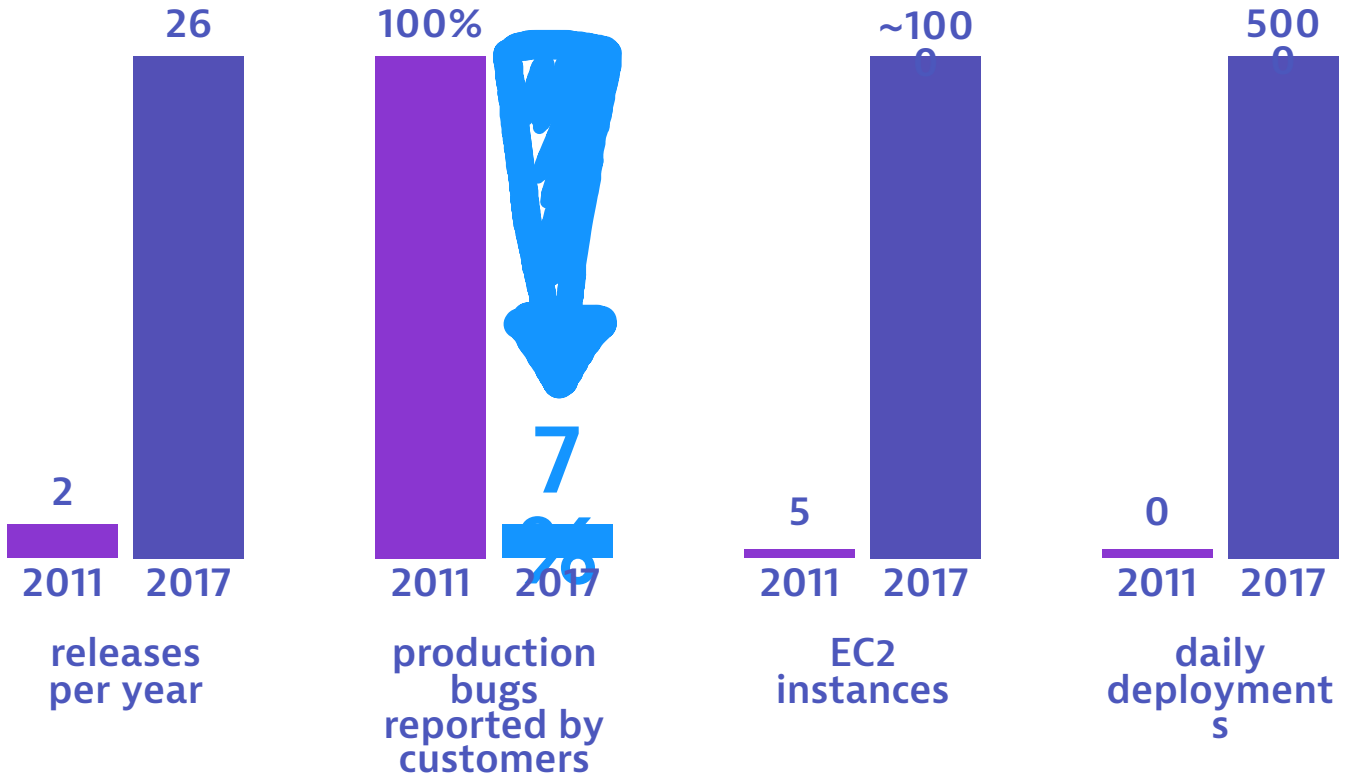
Six and half years ago…



Dynatrace journey to NoOps begins

The results speak for themselves

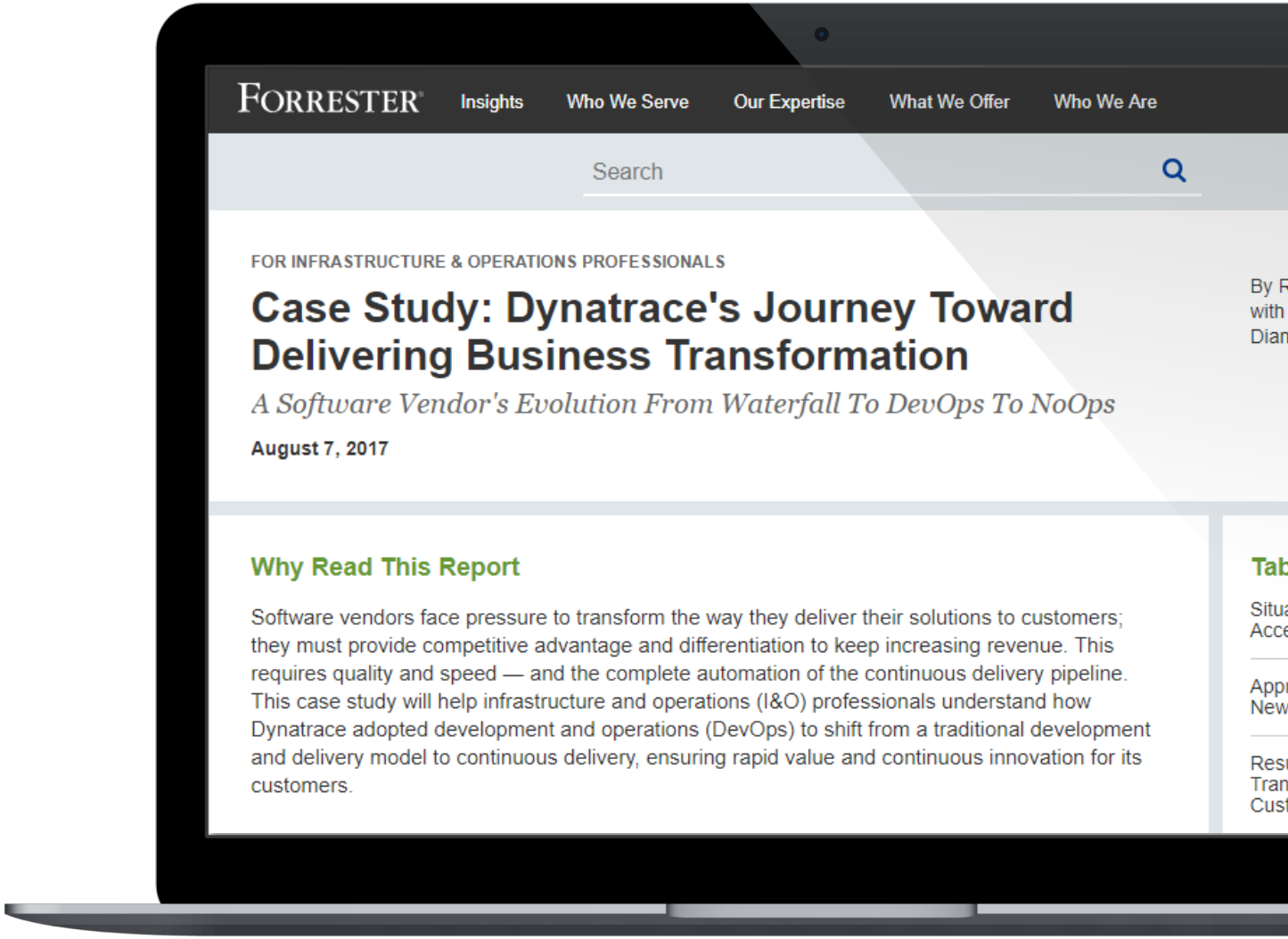


Our Story Resonated

With analysts,

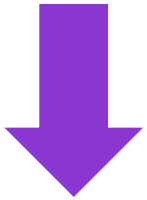
with partners,

and with our customers



Deliver software *better, faster, more frequently*

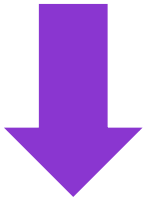
Better



75%

production incidents

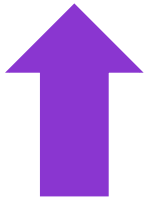
Faster



97%

deployment lead time

More Frequently



8 to 26

releases per year

What is Autonomous Cloud Management

Autonomous Cloud Management is an opinionated enterprise-grade framework for shipping and running cloud-native applications ***better, faster, and more frequently***

ACM Core Capabilities

Automated Monitoring

Automated Test & Quality

Automated Software Delivery

Automated Operations

- ✓ Strategy
- ✓ Process & Culture
- ✓ Tooling
- ✓ Integrations
- ✓ Architecture
- ✓ Cloud Infrastructure
- ✓ Workflow

How is ACM different from what I’m doing today?

Already Shifting Left?

Have you seen a significant reduction in production incidents?

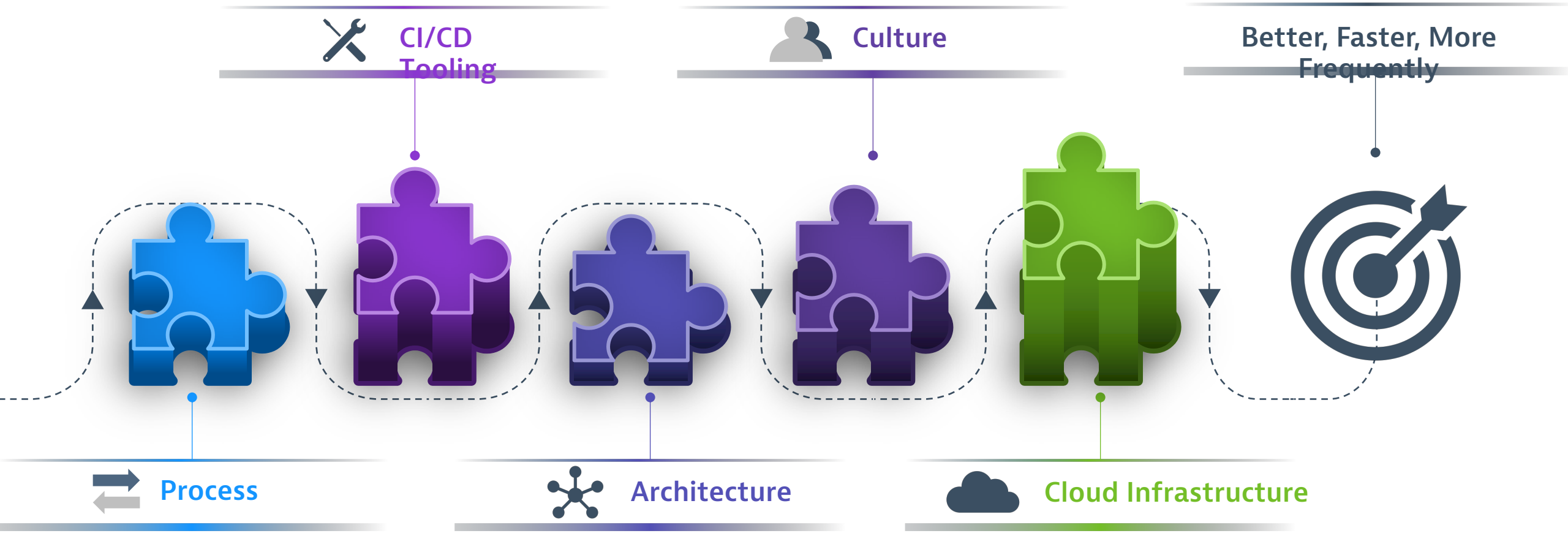
Already Automating Delivery?

Has your deployment lead time reduced to 1 day, or better?

Already adopted Agile?

If you run 2 week sprints, do you release 26 times a year?

ACM puts the pieces together



ACM in detail

Customer X

OpenShift

Unstable QV environment

Slow tests

No TDD

Processes

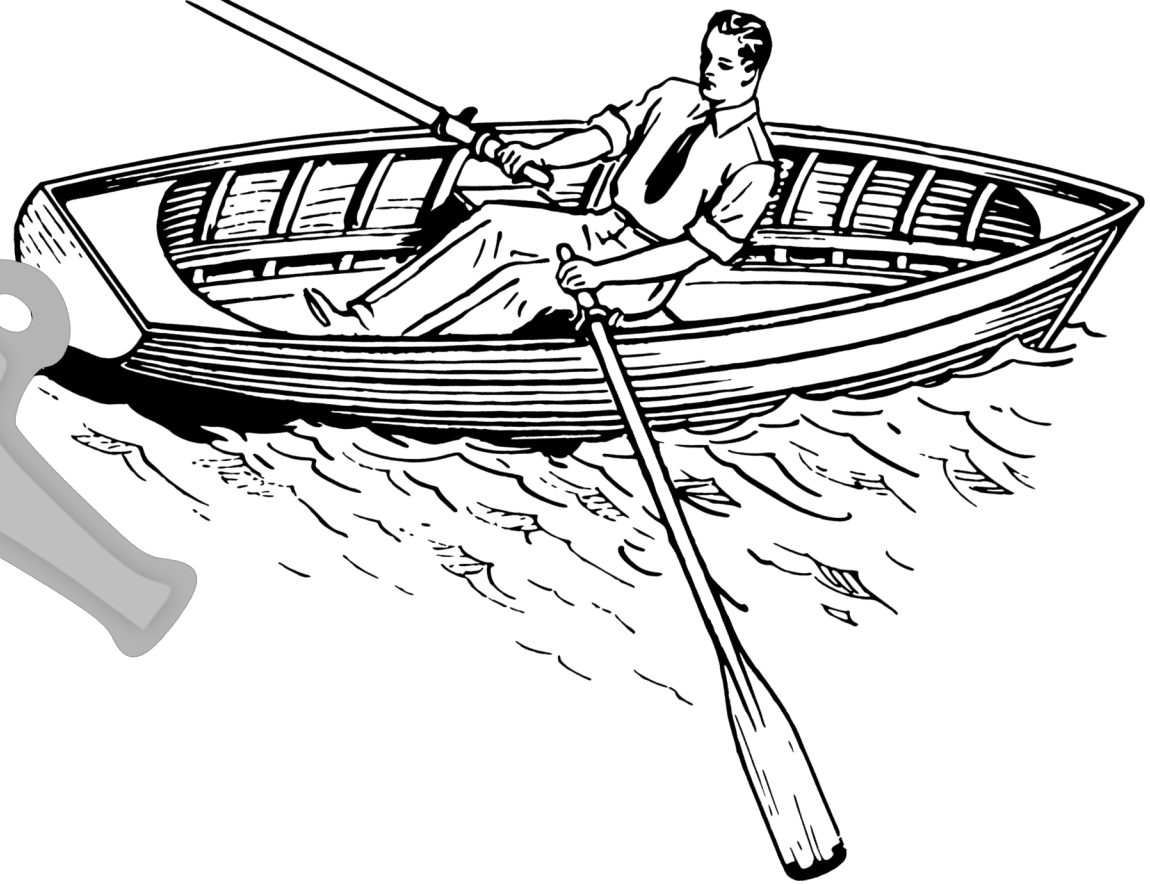
Breaking down the monolith

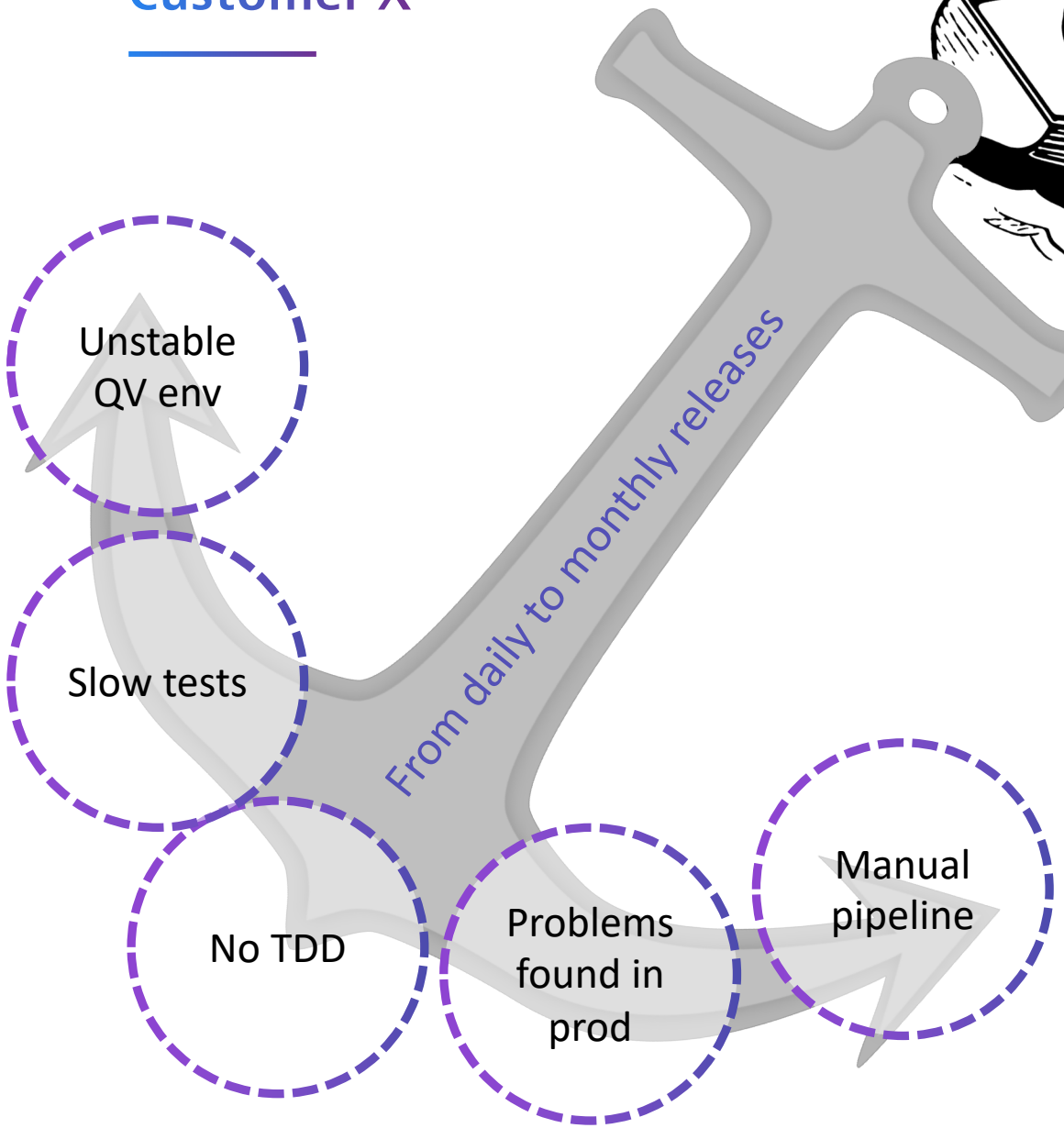
Problems found in prod by end users

Manual pipeline

Monitoring

Customer X





Result: from dev to prod takes 13 days!

ACM Delivery Pipeline in Action

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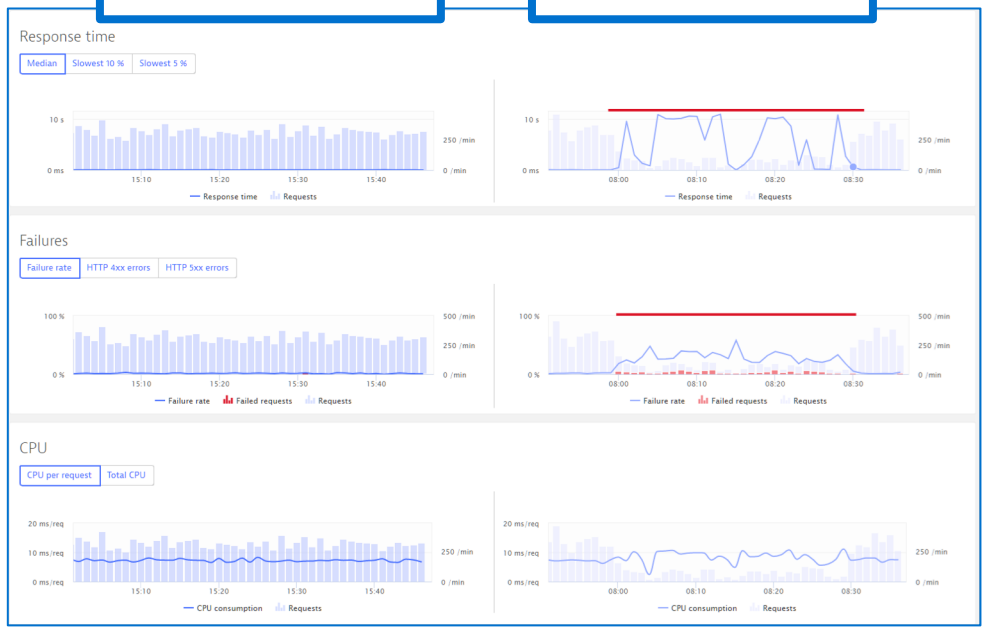
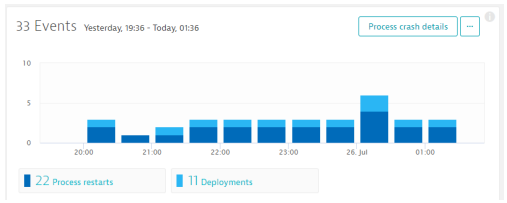
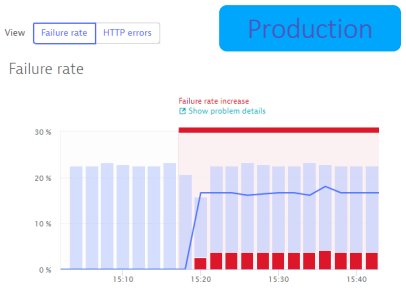
1 Staging → 2 Approve Staging → 3 Production → 4 Approve Production → 5

Push Context → Auto-Quality Gate → Push Context → Auto-Validate

Build #17 | Build #18



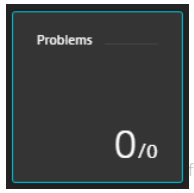




Deployment on CheckDestination 2018-01-23 09:00

Entity	CheckDestination
Time	today, 09:00 - 09:00 (-)
Approver	Alice McBright (alice.mcbright@easytravel.com)
Build Number	1.223.23432
CI	http://a-tower.local/job/DeployJob/38/artifact/build/Deployment-v1.23.321.zip
Git commit	e5a6baac7eb
Owner	Jason Miller (jason.miller@easytravel.com)
Project	CheckDestination
Remediation	http://a-tower.local/job/RemediateJob/38/
Source	ServiceNow
Version	1.23.321

Auto-Remediate!

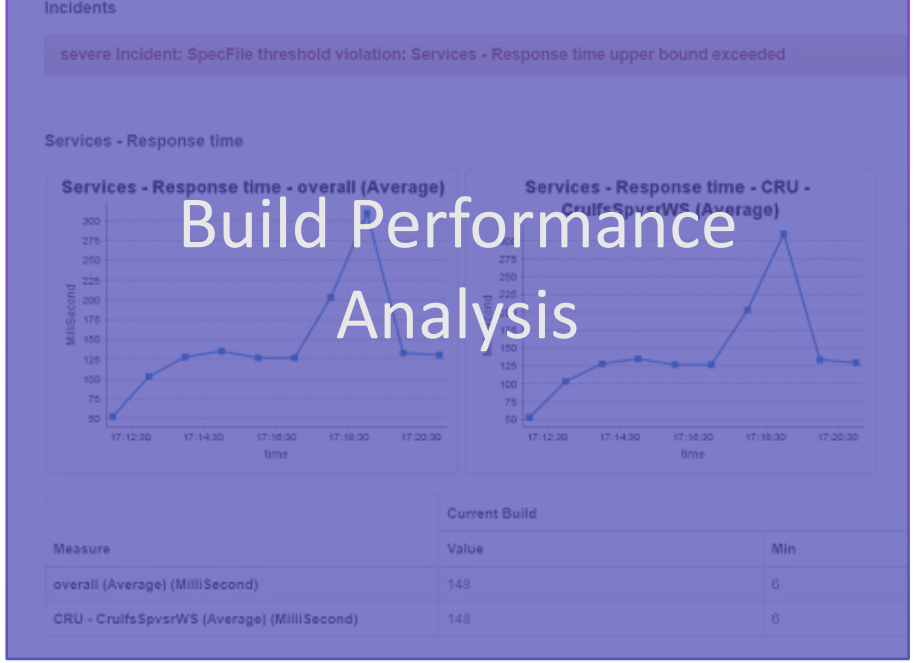


Shift-Left: Monitoring Specification as Code

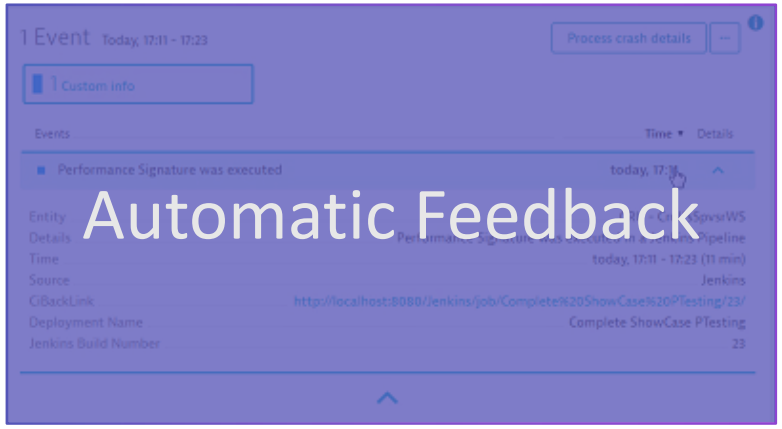
monspec

```
{
 "lowerBound": 1,
 "upperBound": 100,
 "_comment": "global configuration environment-wide",
 "timeseries": [
   {
     "timeseriesId": "com.dynatrace.builtin:service.responsetime",
     "aggregation": "avg",
     "entityIds": "SERVICE-3211ABE8813B9239",
     "lowerBound": 1000000,
     "upperBound": 2000000
   }
 ]
}
```

Performance Signature



Build Performance Analysis



Automatic Feedback

Performance-driven Automatic Quality Gates

Shift-Left: Performance Diagnostics as a Self-Service

Top database statements

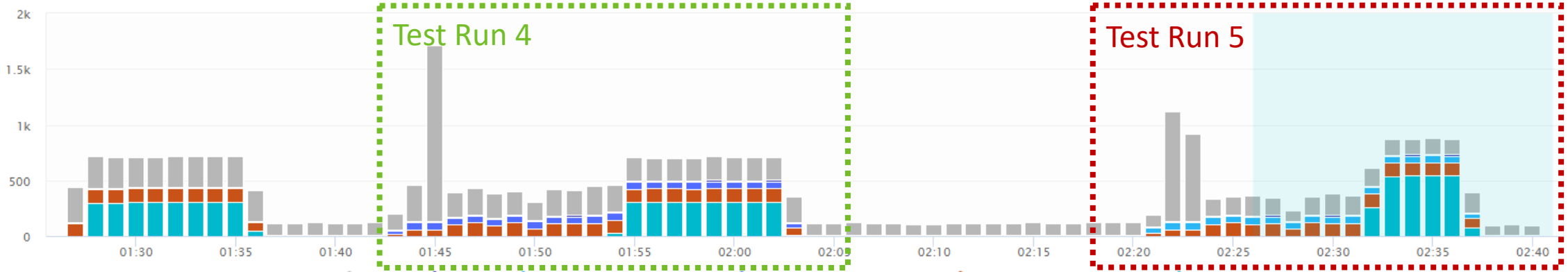
Analyze the most frequent and most expensive database statements in monitored server-side applications.

Top web requests

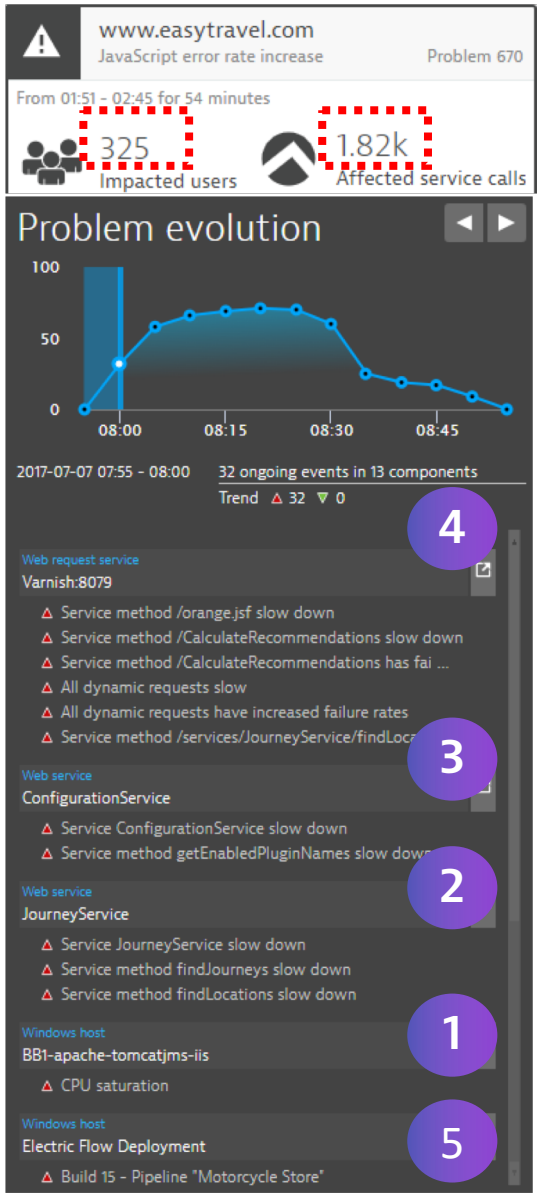
Understand and analyze which web requests are the most expensive and most frequently called.

Exception analysis

Understand and analyze all code-level exceptions in monitored server-side applications.



Runbook Automation Workflow



?Escalate at 2AM?

Auto Mitigate!

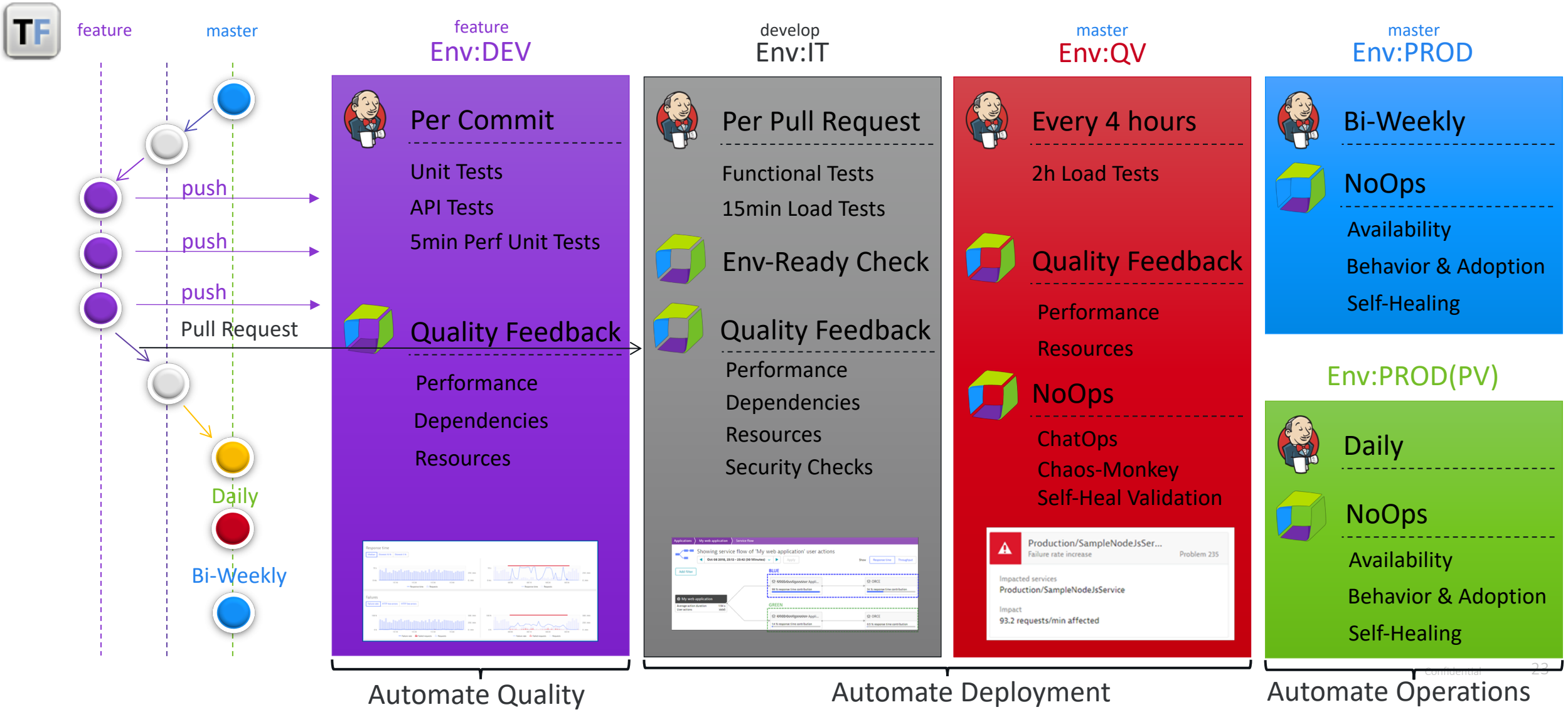
1. *CPU Exhausted?* Add a new service instance!
2. *High Garbage Collection?* Adjust/Revert Memory Settings!
3. *Issue with BLUE only?* Switch back to GREEN!
4. *Hung threads?* Restart Service!

? *Impact Mitigated?* → Update Dev Tickets

5. *Still ongoing?* Initiate Rollback! → Mark Bad Commits

? *Still ongoing?* → Escalate

Customer X – The New Way: From First Line of Code to Production Deployment

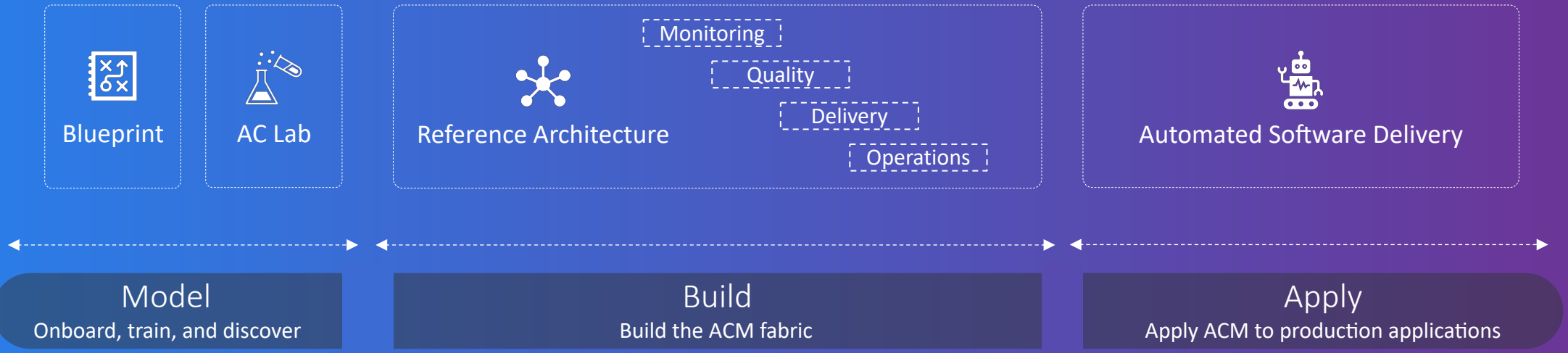


The Road to ACM

Let us guide you!

Rome wasn’t built in a day

Autonomous Cloud Implementation



Autonomous Cloud Lab (ACL)

- 5-Day immersive hands-on automation lab
- On site at customer (private) or at Dynatrace Innovation centers worldwide (shared)
- Foundation to core concepts for fully automated software delivery in modern cloud environments
- Techniques learnt will be put into practice during the Build and Apply phases of the ACM project

Lab Agenda

Day 1	**Autonomous Cloud Concepts** **Cloud-Native Concepts** **Monolith to Microservices**
Day 2	**Developing Microservices** **Monitoring as a Service**
Day 3	**Performance as a Service** **Unbreakable Pipeline**
Day 4	**Production Deployments** **Self Healing**
Day 5	**Virtual Operations** **Project Time**

Cultural path towards ACM


Questions?
Come see us at the Innovation Center!
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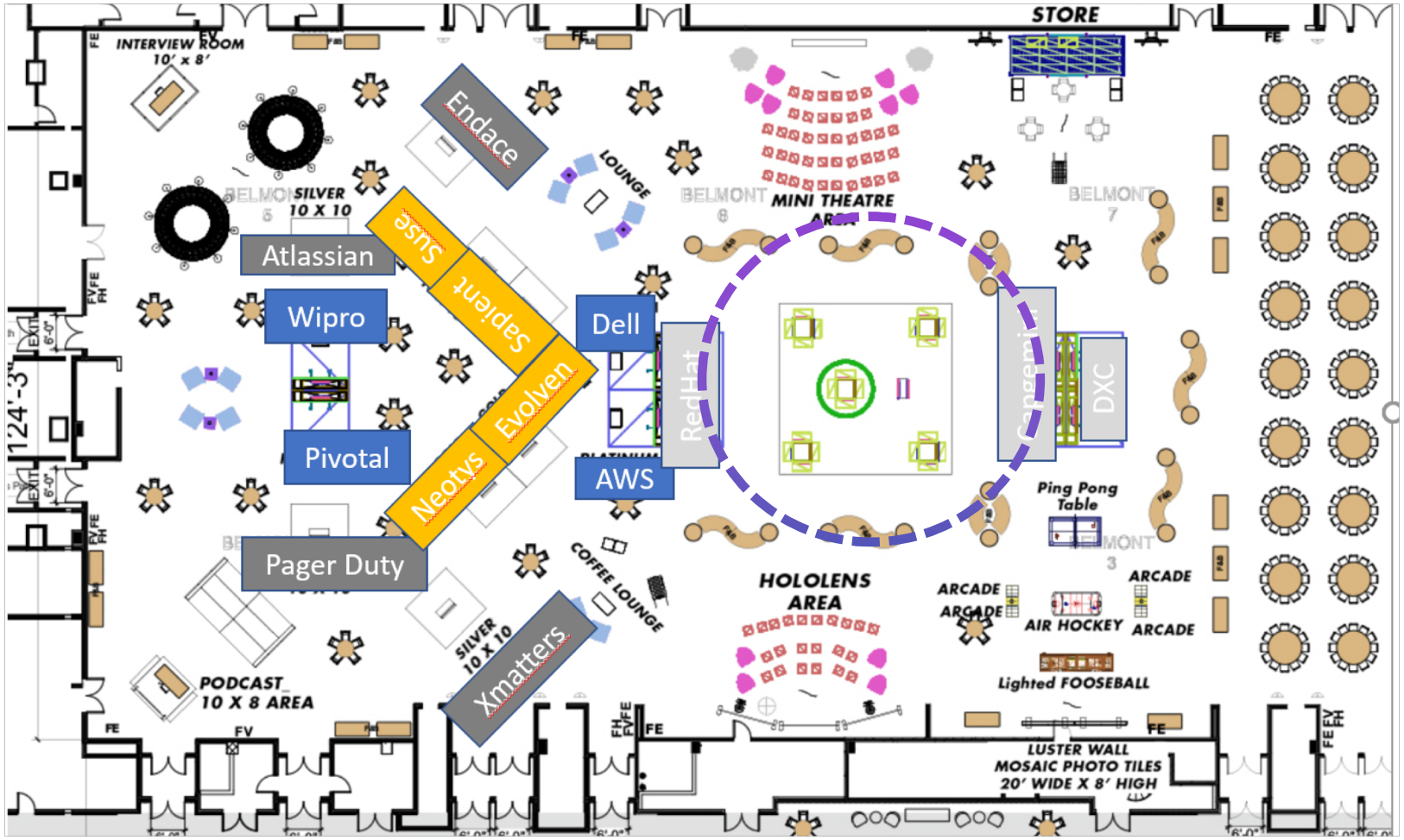
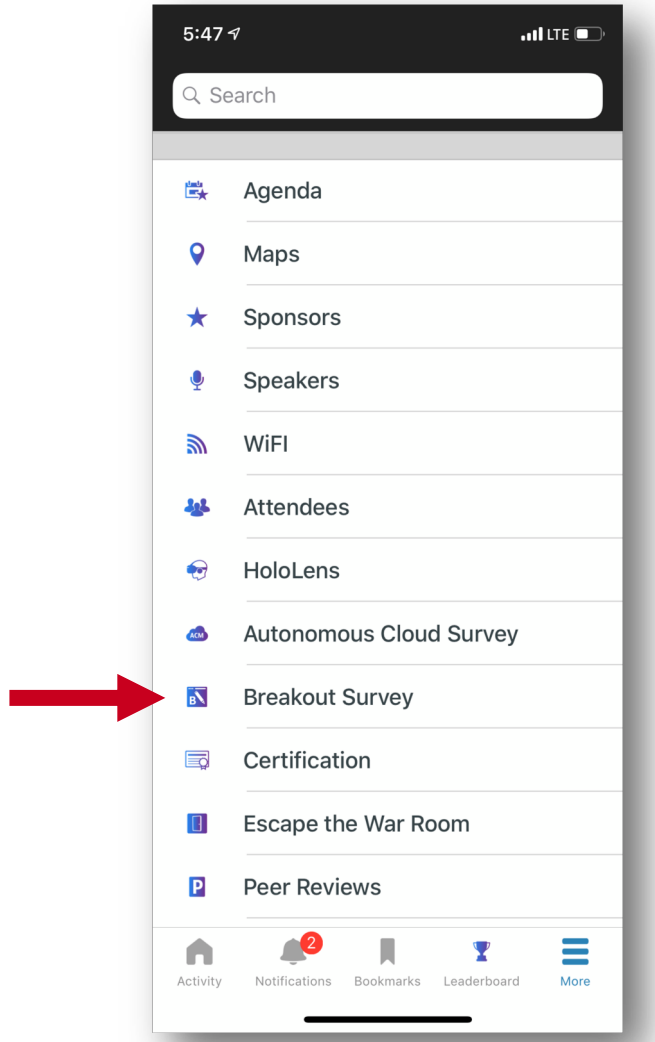
Come see us at the Innovation Center!



Let us know how we did!

- 2 minute survey
- Find it from the Perform app menu
- Complete survey for each breakout you attend

Track = Software Intelligence




Thank you
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