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Testing and DevOps: Organizations and Their Culture Must Change

Adam Auerbach

Fast Facts

FOUNDED IN
1993
US
HEADQUARTERED
PUBLIC COMPANY
(NYSE:EPAM)

FY 2017
REVENUE
\$1.45B
Q1 FY 2018
REVENUE
\$424.1M

2018
REVENUE
GUIDANCE
\$1.79B

20+%
YOY
CONSTANT CURRENCY
ORGANIC GROWTH

23,700+ Engineers, Designers and Consultants

VERTICAL FOCUS*

24%	22%	19%	18%	8%	9%
FINANCIAL SERVICES	TRAVEL & CONSUMER	SOFTWARE & HI-TECH	MEDIA & ENTERTAINMENT	LIFE SCIENCES & HEALTHCARE	EMERGING

REVENUE BY GEOGRAPHY*

57%	36%	5%	2%
NORTH AMERICA	EUROPE	CIS	APAC

25+ COUNTRIES

SERVICE MIX

- SOFTWARE ENGINEERING & PRODUCT/PLATFORM DEVELOPMENT
- QA AND TEST AUTOMATION
- MANAGED SERVICES
- INFRASTRUCTURE & LICENSING

DIGITAL BUSINESS	PRODUCT ENGINEERING
MANAGED SERVICES	CONSULTING

* Data represents Q1 FY 2018 distribution

Epam's Global Testing Practice



25+
Years of Testing Experience



6,000
Dedicated Full Time Professionals



2,100
Dedicated Test Automation Engineers



20+
Locations across Americas, EMEA, APAC



CMMI 5, ISO 9001
ISAE 3402, ISO 27001

QA CONSULTING

- Test Strategy
- QA Process assessment,
- Alignment with DevOps, CI/CD transformation
- Agile adoption

FUNCTIONAL TESTING

- Functional, System Integration and User acceptance testing
- I18n / L10n testing
- Requirements testing
- Test results reports and dashboards for visibility into the project status

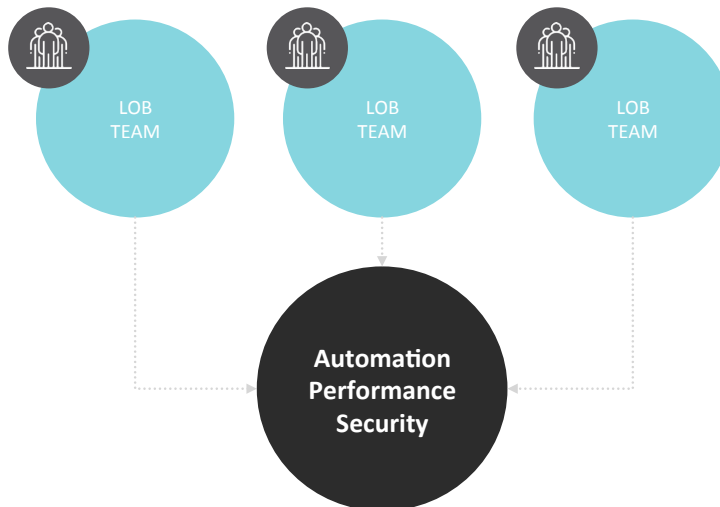
TEST AUTOMATION

- Custom Test Automation Frameworks and Solutions
- Test Automation in: APIs & Web Services, UI, Mobile & Unit testing, etc.

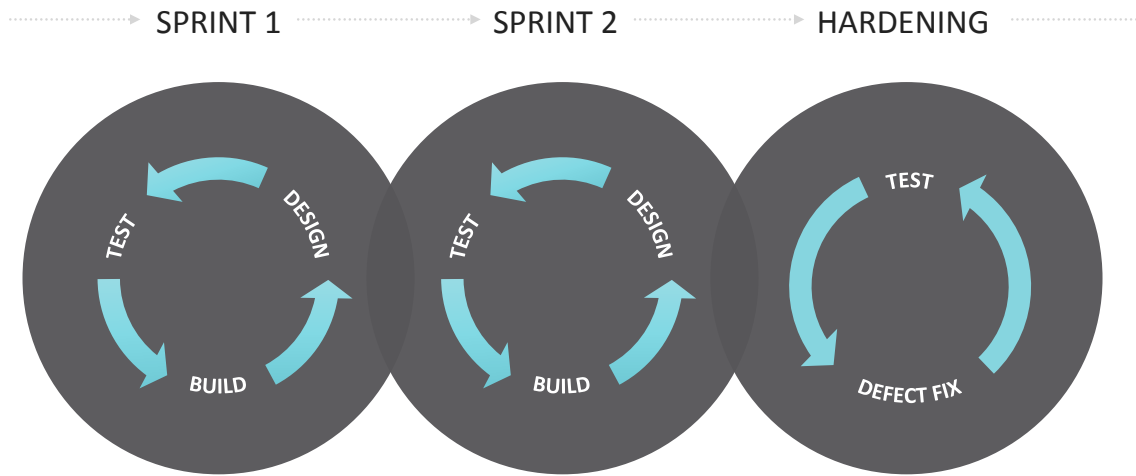
SPECIALIZED TESTING

- Performance management
- Mobile, Security, BI and Data integration testing/ETL testing
- Compatibility, Interoperability testing
- Cloud, SOA / WS testing, Service Virtualization
- Usability/ Accessibility testing

Traditional QA Organization



Agile?



WHAT IS
DEVOPS?

DevOps is a Philosophy

DELIVER HIGH QUALITY WORKING SOFTWARE FASTER



Agile Pod
(Dev, QA, PO, BSA)



Infrastructure



Arch.



Prod Support

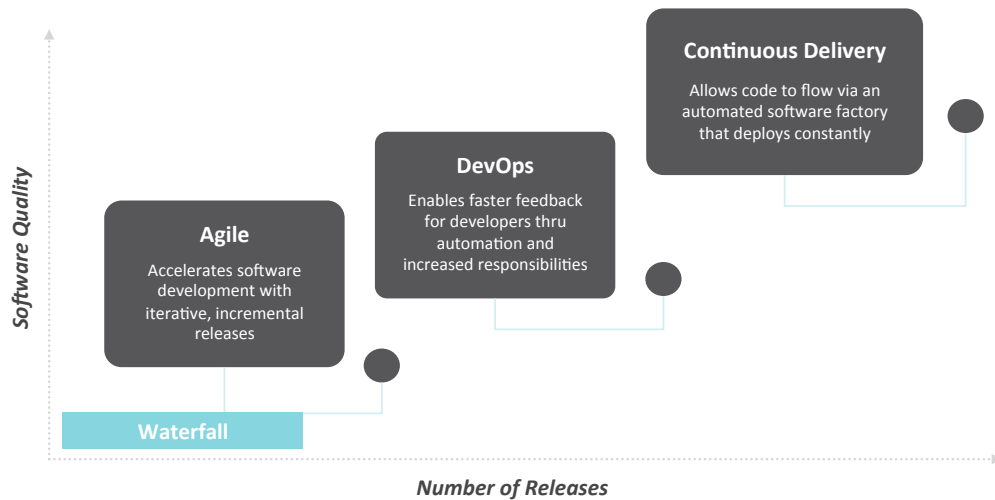


Shared Services (e.g. Security Testing, Perf Testing)

DevOps is a philosophy where teams are accountable for everything required to get their code developed, tested and deployed to production, while shared service teams provide the automation and tools to enable them.

“You Build it You Own it”

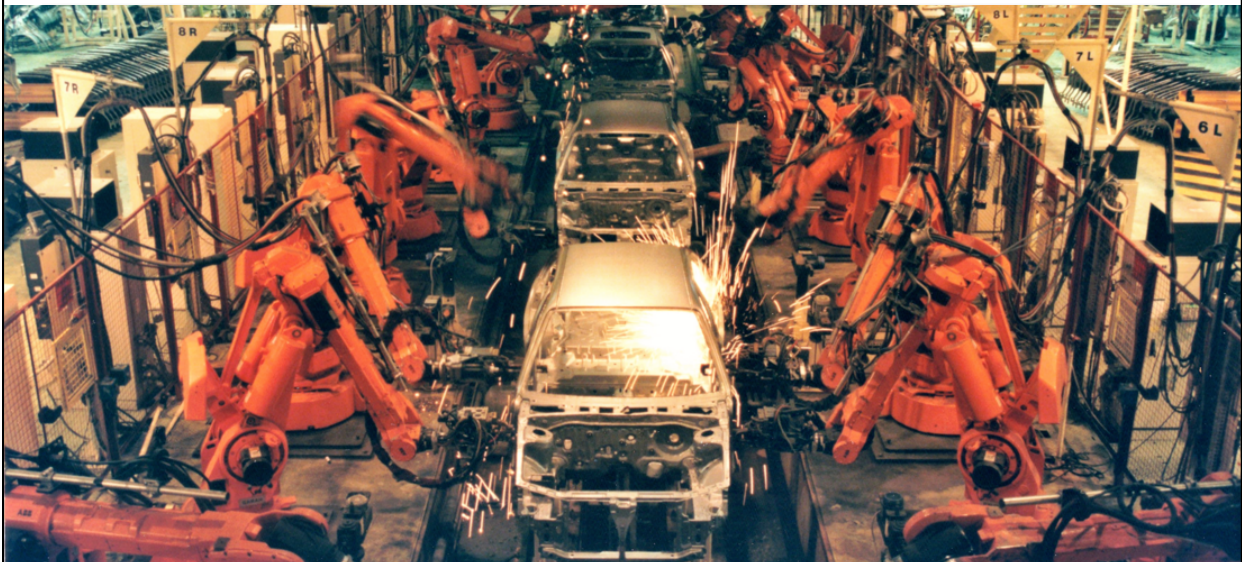
DevOps is the Next Part of Your Agile Journey



What is DevOps?



Automate Everything



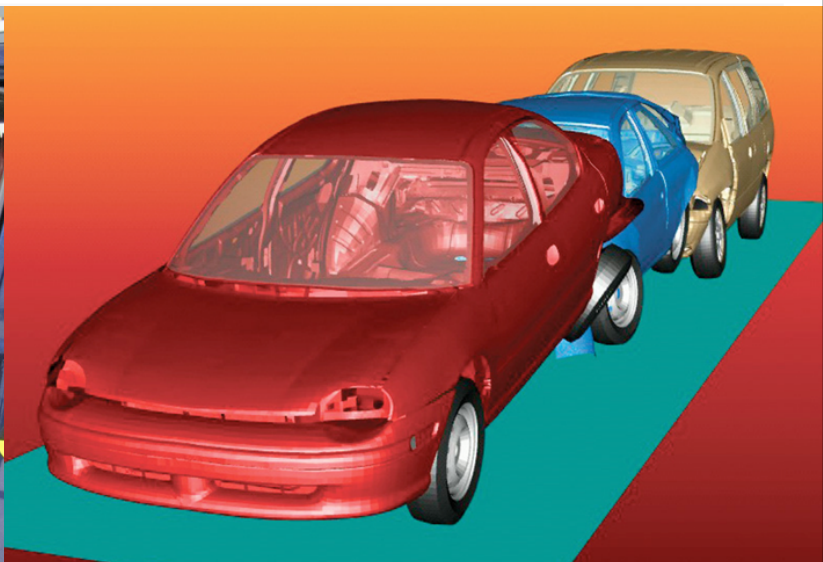
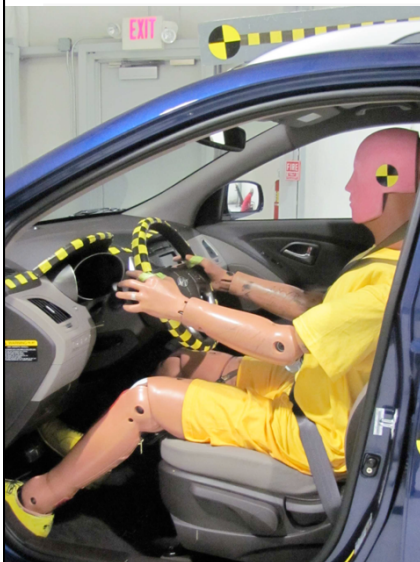
Fast Feedback



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Remove Constraints



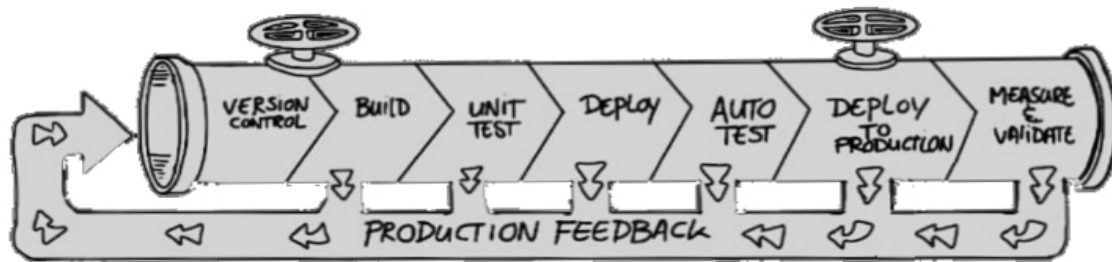
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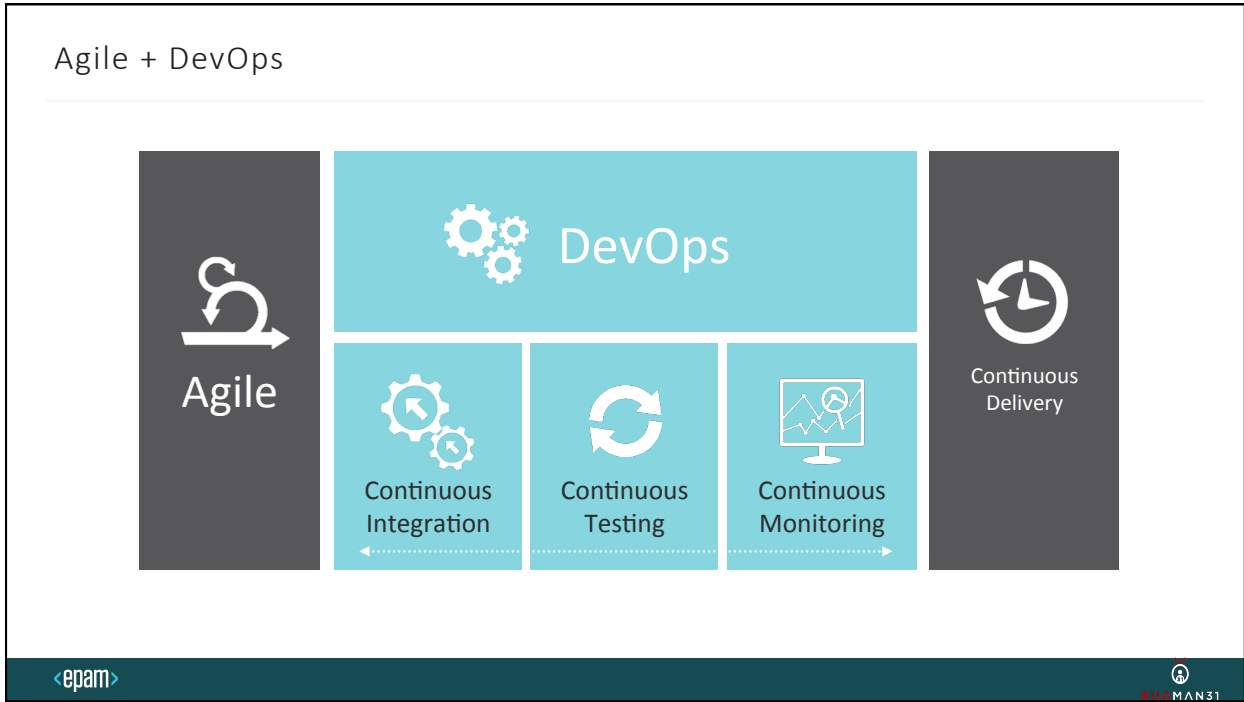
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Collaboration Early and Often



Focus on Flow

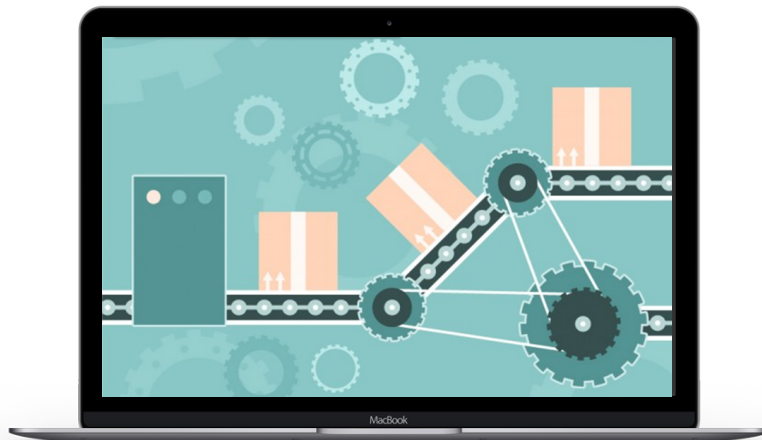




WHAT IS CONTINUOUS TESTING?

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Pipelines



Real-Time Automation

BEHAVIOR-DRIVEN DEVELOPMENT (BDD)

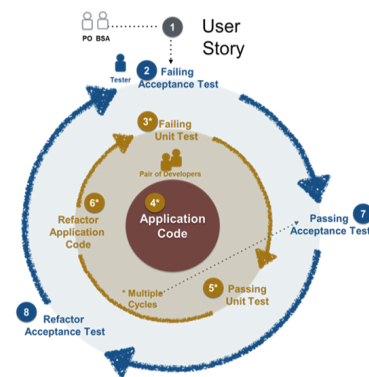
- Team Focused
- Stress on Stories
- Add a Test
- Run all Tests
- Write Code
- Refactor Until Added Test Passes

TEST-DRIVEN DEVELOPMENT (TDD)

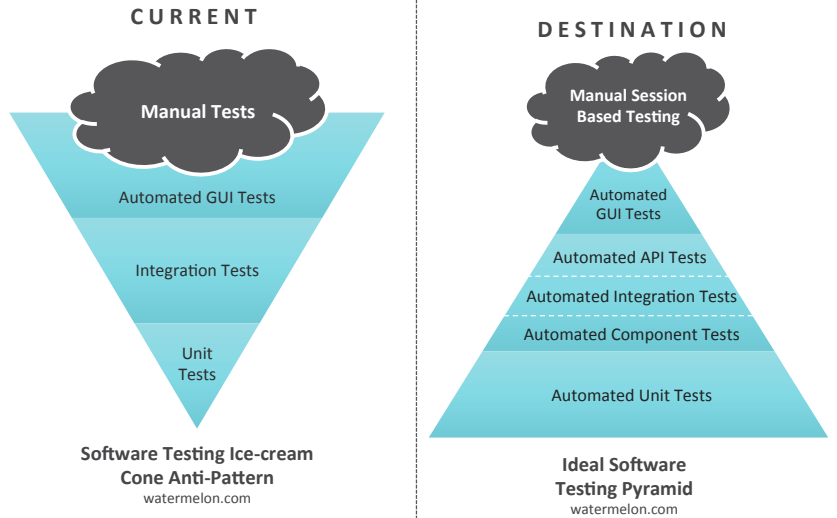
- Developer Focused
- Closer to Unit Level
- Add a Test
- Run all Tests
- Write Code
- Refactor Until Added Test Passes

ACCEPTANCE TEST-DRIVEN DEVELOPMENT (ATDD)

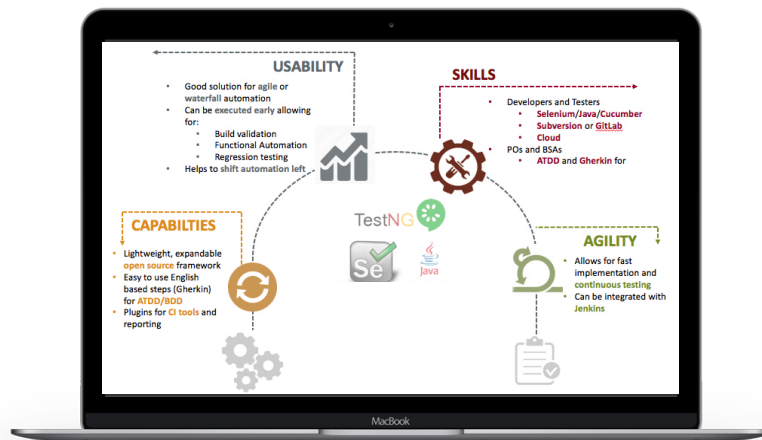
- Team Focused
- Stress on Acceptance Criteria
- Add a Test
- Run all Tests
- Write Code
- Refactor Until Added Test Passes

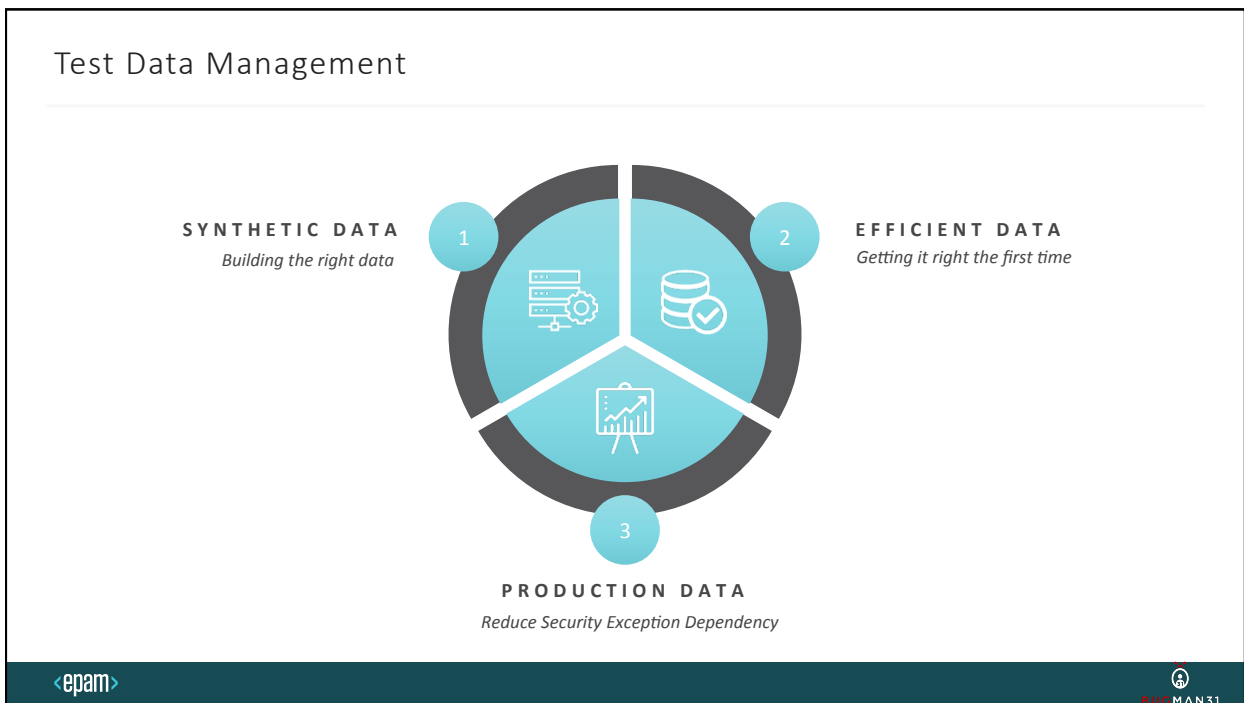


Testing Approach



Open Source Tools

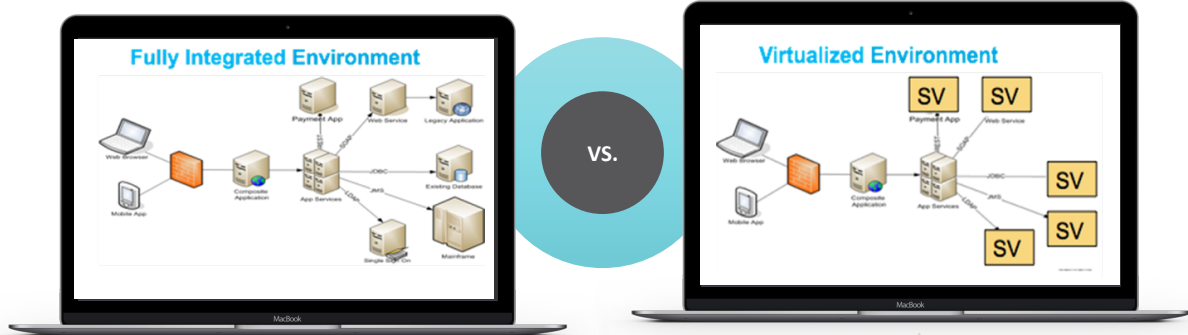




Service Virtualization

INTEGRATED ENVIRONMENT

VIRTUALIZED ENVIRONMENT

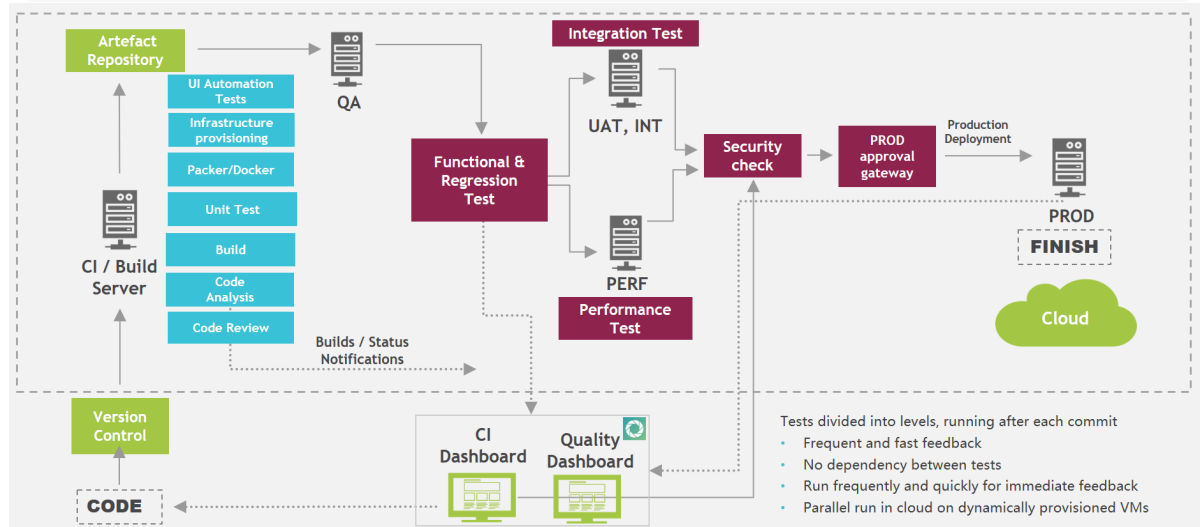


VS.

Realtime Insights

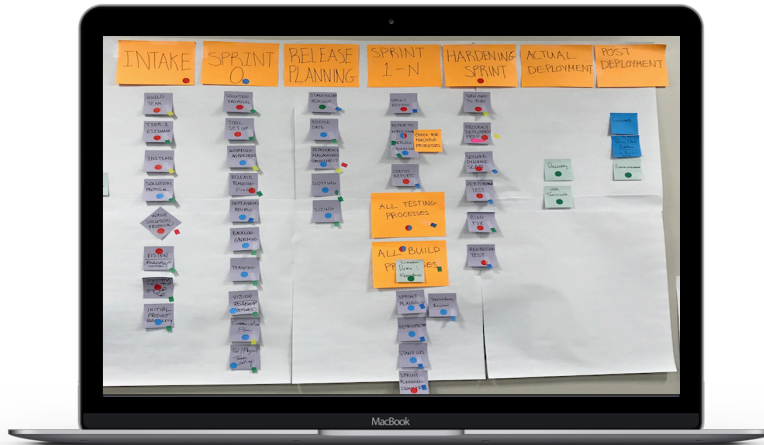


Blueprint for Continuous Testing

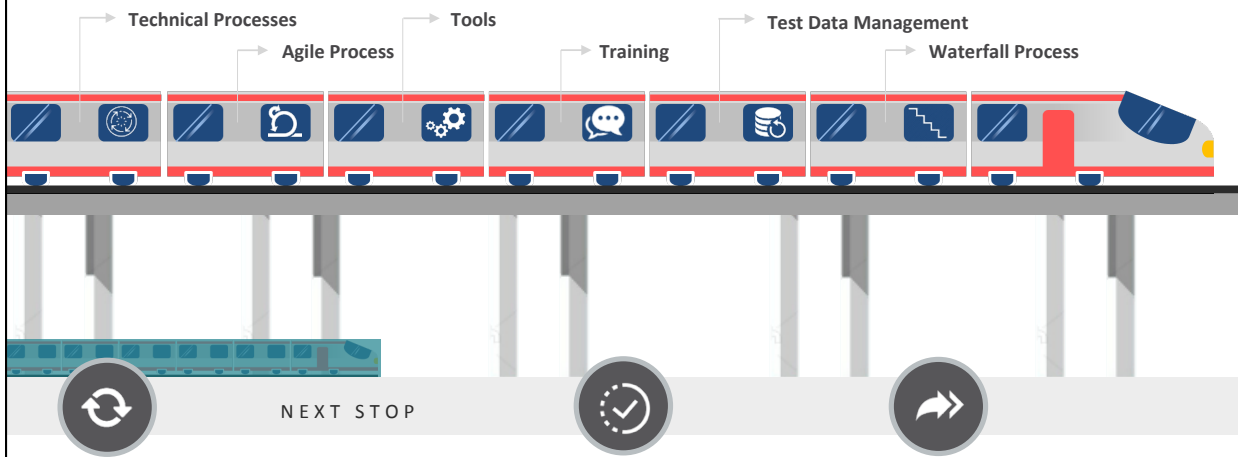


HOW DO YOU START?

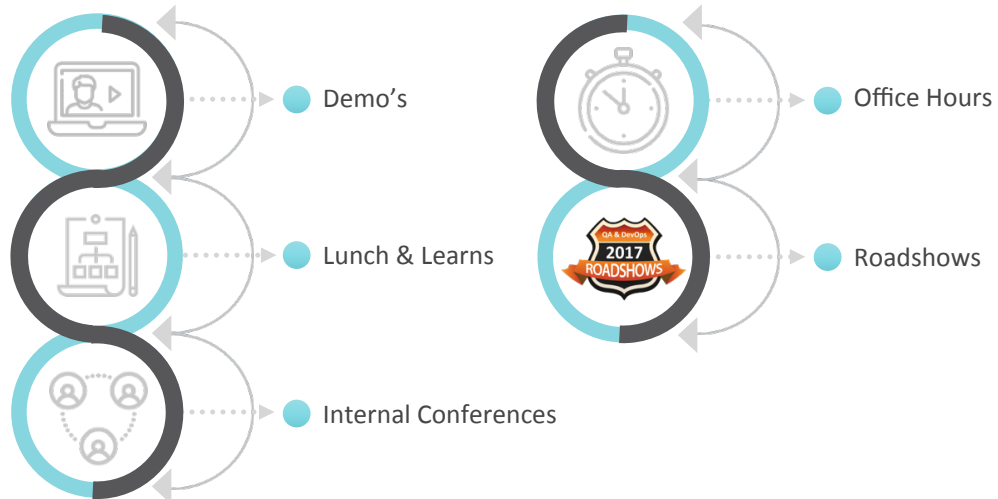
Value Stream Analysis



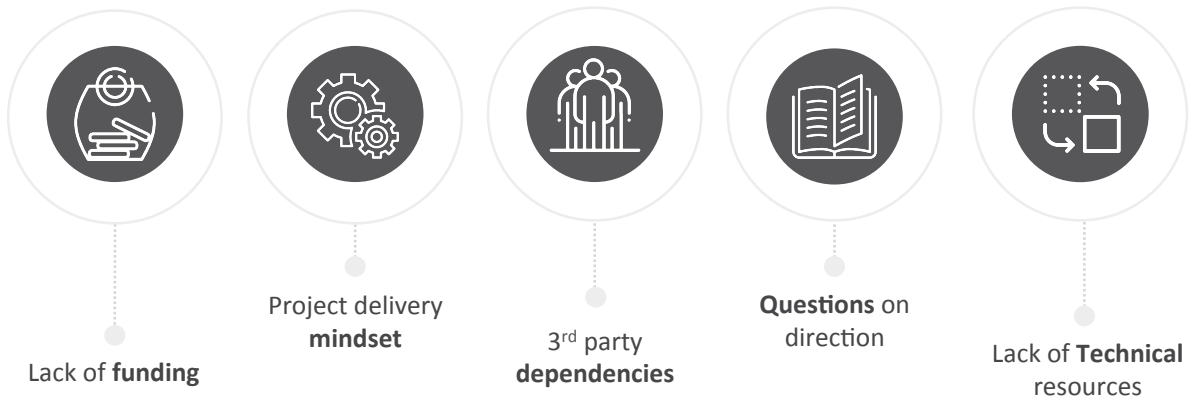
Empower People to Drive Change



Build a Community



Common Challenges

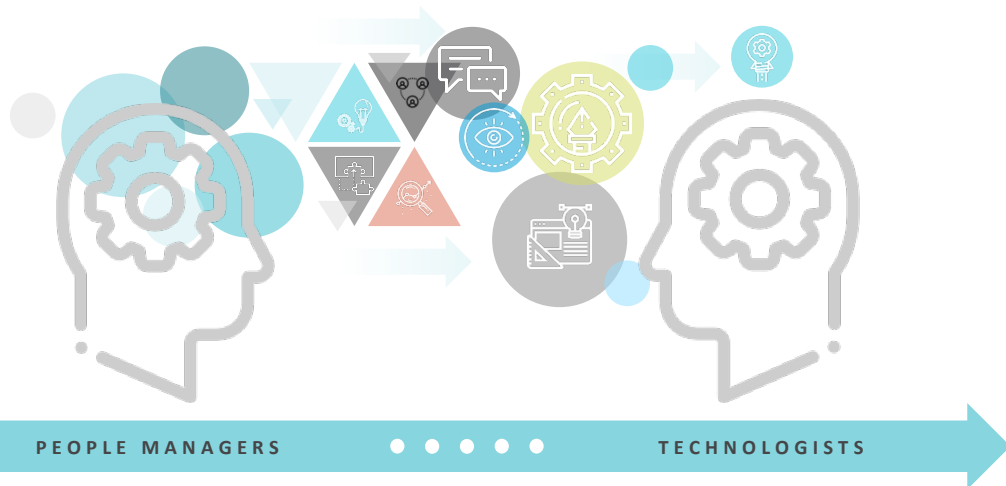


Top down and bottom up support is critical

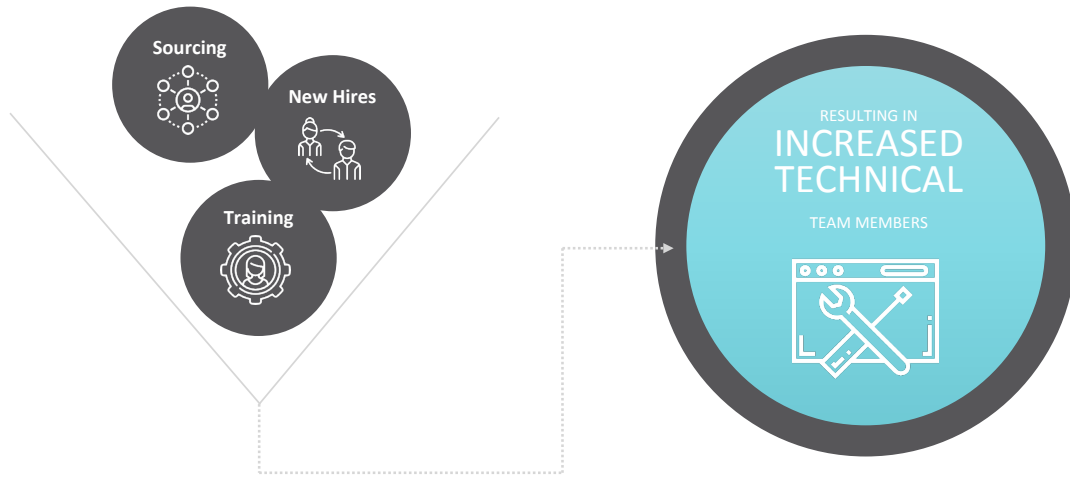
Take Inventory of Your Team



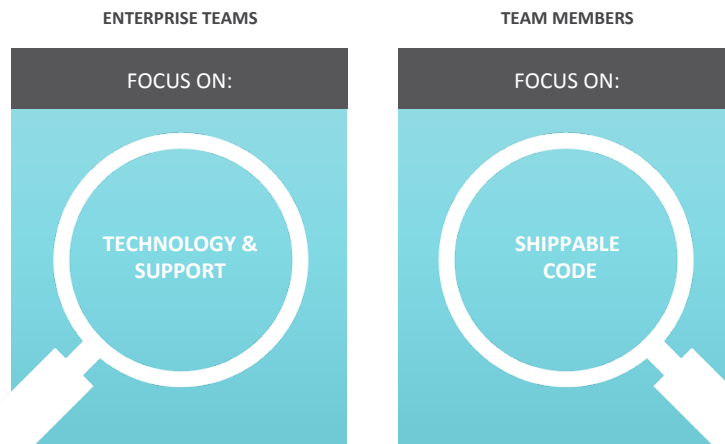
Identify Your Future Leaders



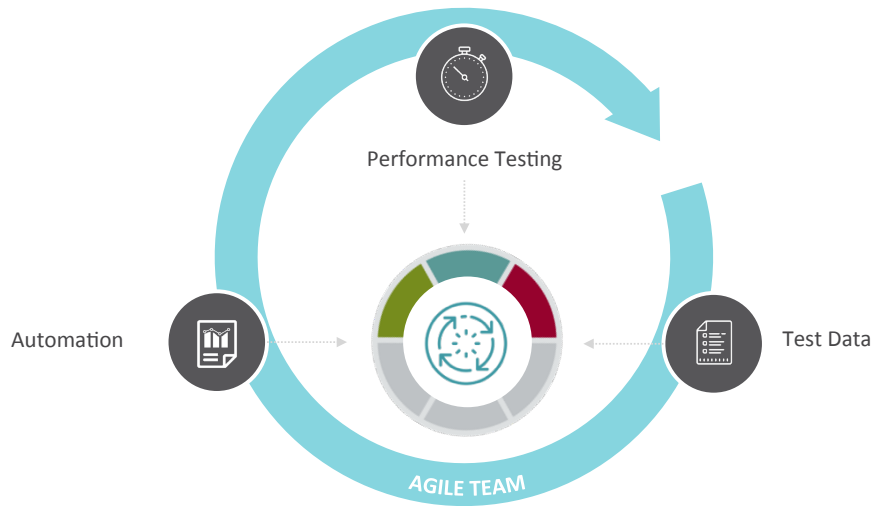
Use multiple levers to get more technical



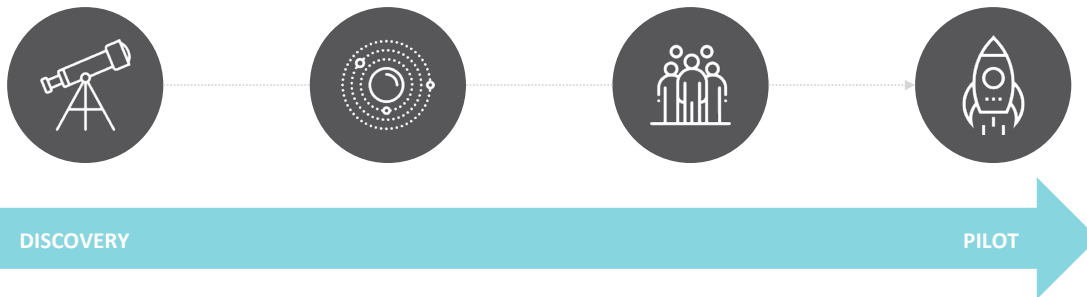
Enterprise Groups Focus on Enablement

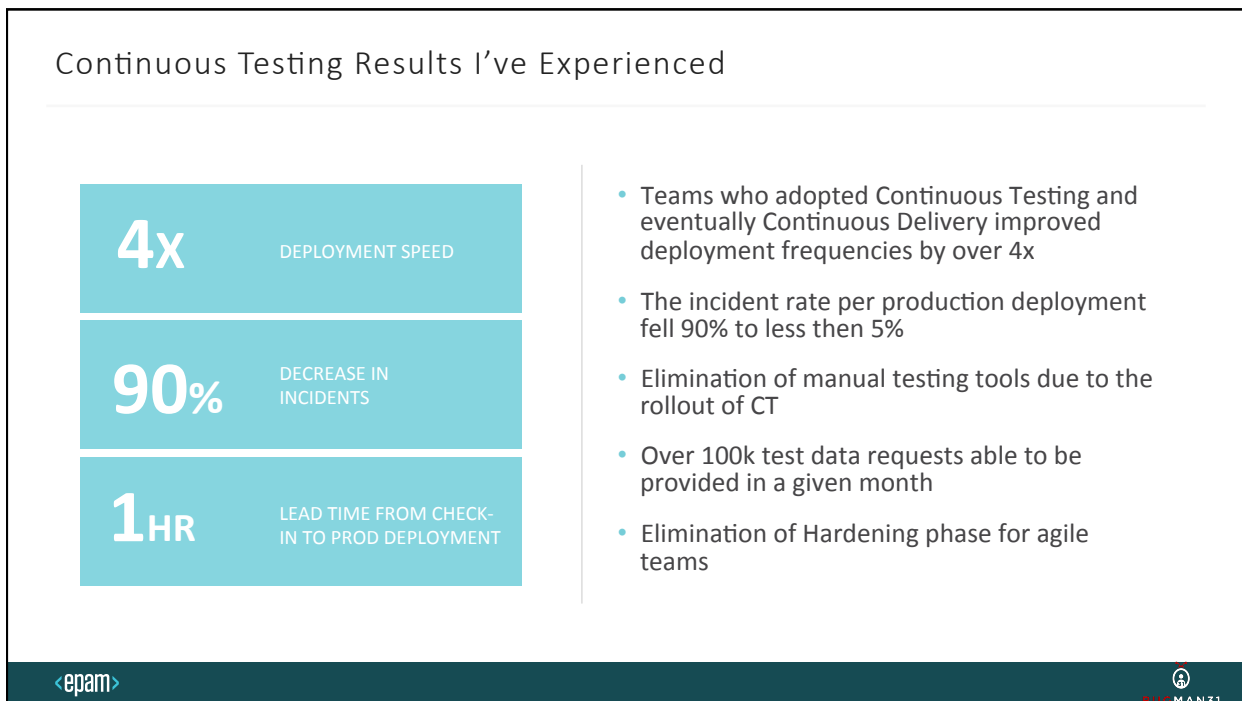
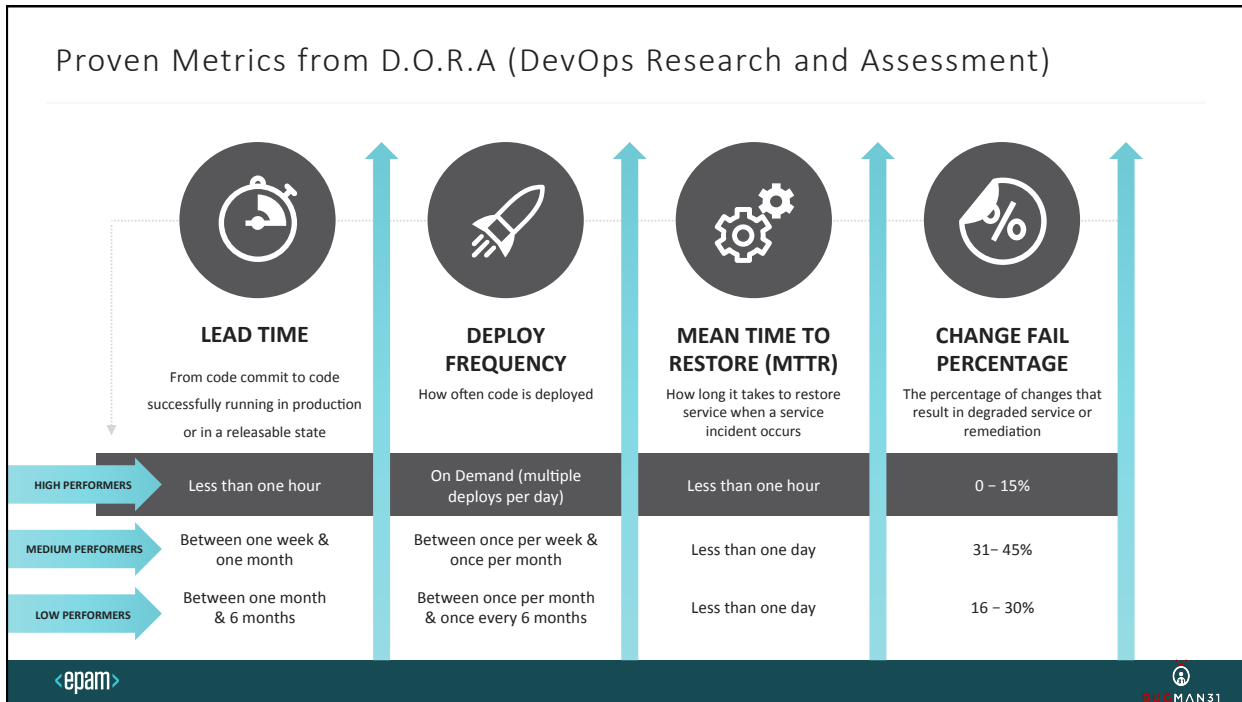


Embrace DevOps for Testing

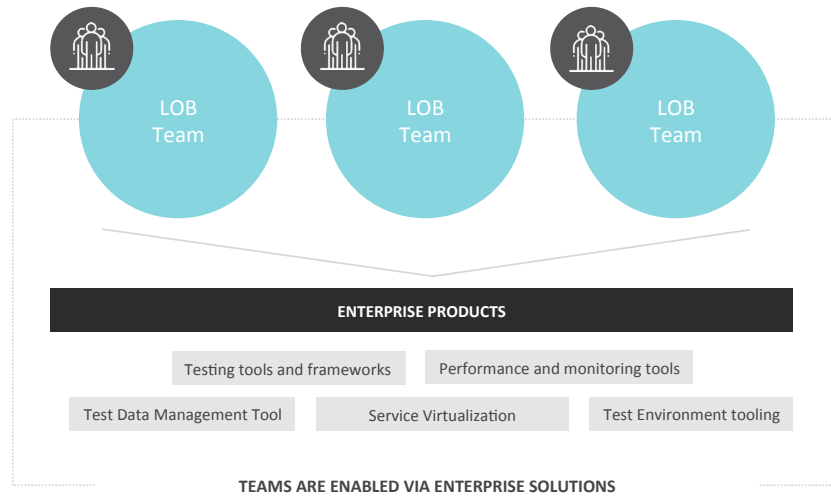


Pilot Like Crazy





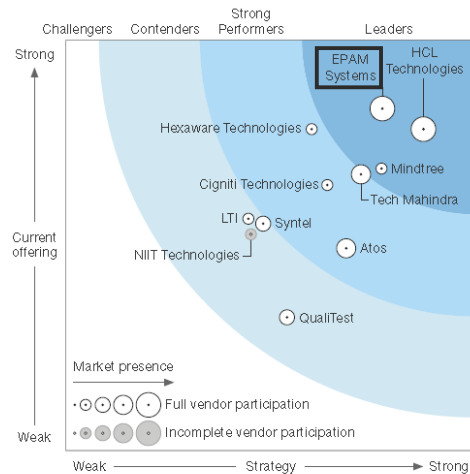
Continuous Testing Results I've Experienced



Epam recognized as a leader in the forrester wave™: Continuous Testing service providers, q3 2017

“EPAM IS AN IDEAL PARTNER FOR BOTH NEWCOMERS AND MATURE PRACTITIONERS OF DIGITAL BUSINESS THAT ASPIRE TO DELIVER QUALITY AT SPEED AND ARE MOVING TO AGILE AND CONTINUOUS DELIVERY MODELS.”

The Forrester Wave™: Continuous Testing Service Providers, Q3 2017



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THANK YOU