Shift Happens
The Role of Continuous Testing in DevOps

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• 14+ years in software delivery

• As a former customer, he developed and implemented a quality assurance strategy that was very similar to the concepts of DevOps and Continuous Delivery as we know them today

• With both a development and quality assurance background, he has seen firsthand the inefficiencies of the traditional software delivery lifecycle (SDLC)

• He joined CA to help organizations modernize their SDLC and enable them to deliver software projects better, faster, and cheaper
WHY do we even talk about Continuous Testing?
Agile Helps You Move Faster

<table>
<thead>
<tr>
<th>4x</th>
<th>Agile improves success rate of projects over Waterfall</th>
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<tbody>
<tr>
<td>42%</td>
<td>Improvement in overall speed-to-production with Agile</td>
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<tr>
<td>65%</td>
<td>Reduction in IT costs when DevOps is added to Agile</td>
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But Moving Fast is Not Enough… Bad Software Costs Billions of Dollars
WHAT holds us back from Continuous Testing?
Question #1

HINT:
Biggest bottleneck in DevOps
A 2017 survey found that the **majority of delays were occurring at the Test/QA stage of the cycle.**

29% of DevOps practitioners said that quality was being sacrificed.

What tends to lose out most in a DevOps environment?

- Nothing: 42%
- Speed: 16%
- Quality: 29%
- Security: 13%
Question #2

HINT:
Not automation
### Challenges to Achieving Continuous Delivery & Testing

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Development</th>
<th>QA/Testing</th>
<th>Release</th>
<th>Operations</th>
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<tr>
<td>64% of total defect cost originate in the requirements analysis and design phase¹.</td>
<td>50% of developers time is spent fixing and finding defects²</td>
<td>80% of teams experience delays in development and QA due to unavailable dependencies³</td>
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<tr>
<td>Requirements</td>
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<td>70% of all testing is still manual⁴</td>
<td>63% of testers admit they can’t test across all the different devices and OS versions⁵</td>
<td>50% of time spent looking for test data⁶</td>
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<td>79% of teams face prohibitive restrictions, time limits or access fees on needed 3rd party services³</td>
<td>57% are dissatisfied with the time it takes to deploy new features⁷</td>
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</table>

- ² Study conducted by the Judge Business School at Cambridge University – January 2013
- ³ Voke Market Snapshot Service Virtualization – January 2015
- ⁴ Bloor Report Automated test case generation - September 2014
- ⁵ Perfecto Mobile 2014 Benchmark Survey, Why Mobile Apps Fail - 2014
- ⁶ Forrester Global Modern Service Delivery Benchmark Online Survey - Q4 2014
- ⁷ BlazeMeter “Black Friday” study, 2016

Greater than 50% production outages from configuration management

Ave. cost of downtime per minute = $4,700

53% percent of visits are abandoned if a mobile site takes more than three seconds to load
TESTING REALITY

TOOLSET

TEST PYRAMID

UI Tools
API Tools
Dev Tools

UI
API
Unit

94%
3%
3%

TESTING GOAL

TOOLSET

TEST PYRAMID

UI Tools
API Tools
Dev Tools

API
Unit

5%
45%
50%

*Actual customer example of their testing strategy

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Before: Traditional SDLC Process

Testing as a time-boxed event, in a linear process.
Question #3

Test, document, customer validate, setup releases, stand ups, reviews, etc.

**HINT:** All one person

**ANSWER:** Tasks developers have to do in sprint
When Shift Happens

On the average…
How many hours in a week do developers actually code?

8 HOURS!

Developer’s tasks in sprint

- Code
- Test
- Customer Validation
- Release Automation
- Videos
- Monitor
- Release
Question #4

_____ Happens.

HINT: Not “@#$!”

ANSWER: Shift Happens
(Or better yet, Shift Needs to Happen)
HOW do we achieve Continuous Testing?
What Is Continuous Testing?

The practice of testing across every activity in the SDLC to uncover and fix unexpected behaviors as soon as they are injected.
Continuous Testing is the embedding of testing as a fundamental and ongoing aspect of every activity throughout the software delivery cycle.
CA Solutions Enable Continuous Testing
End-to-End Integrated Continuous Testing from CA

AUTOMATE THE AUTOMATION!
Thank You.