



Agile testing and DevOps techniques

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Agenda:

- How Agile testing fits Agile Manifesto
- Best methodology for Agile Scrum testing
- What is DevOps
- DevOps optimization



Agile Manifesto:

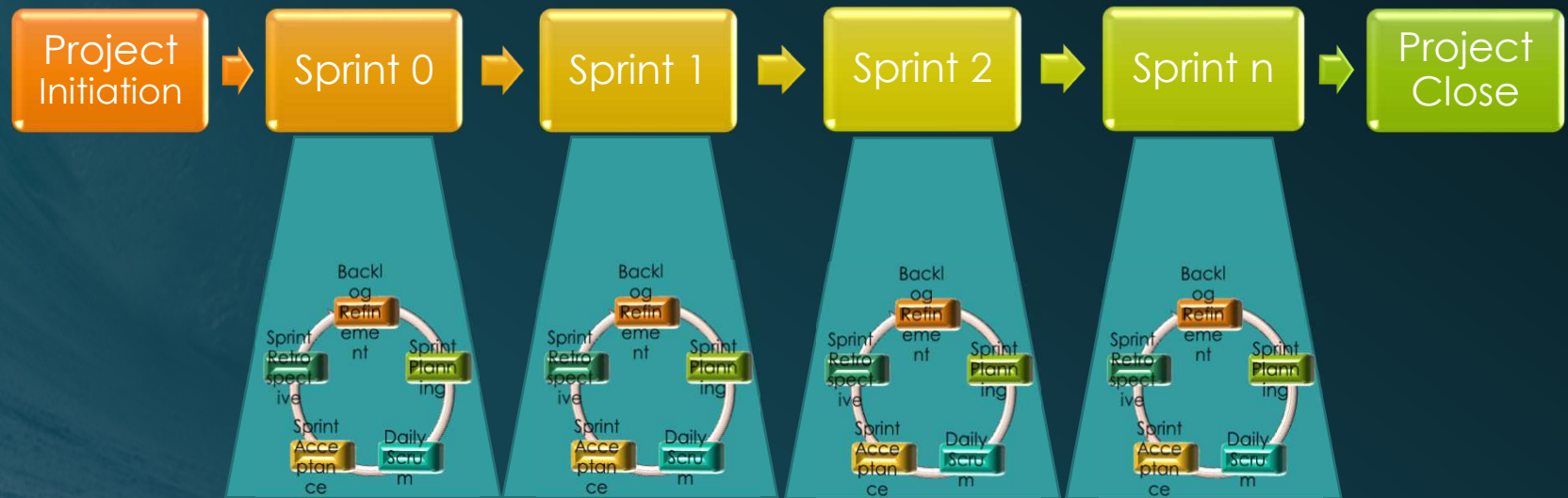
- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Agile Principles:

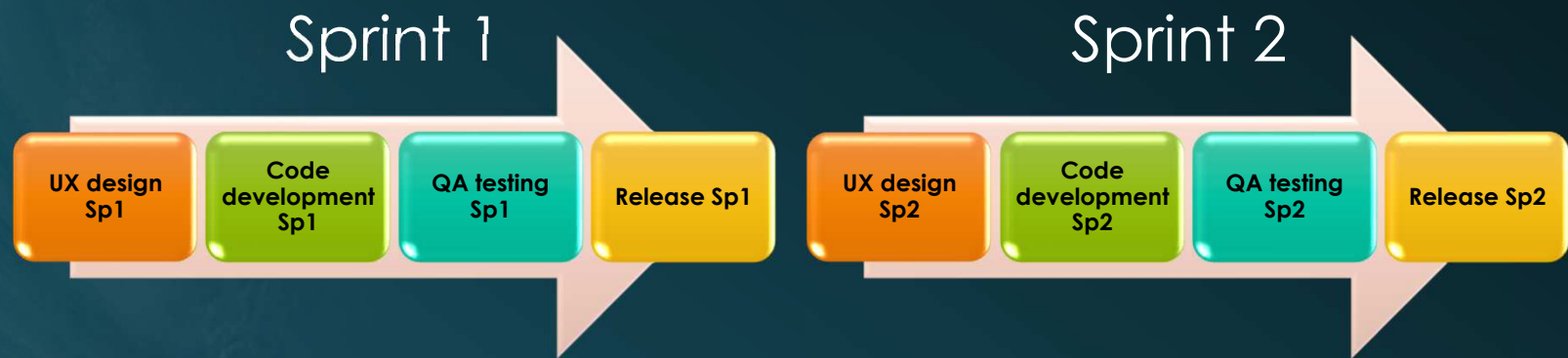
- Simplicity—the art of maximizing the amount of work not done—is essential.

Source: <https://agilemanifesto.org>

Agile Scrum methodology



Why most Agile Scrum fail?

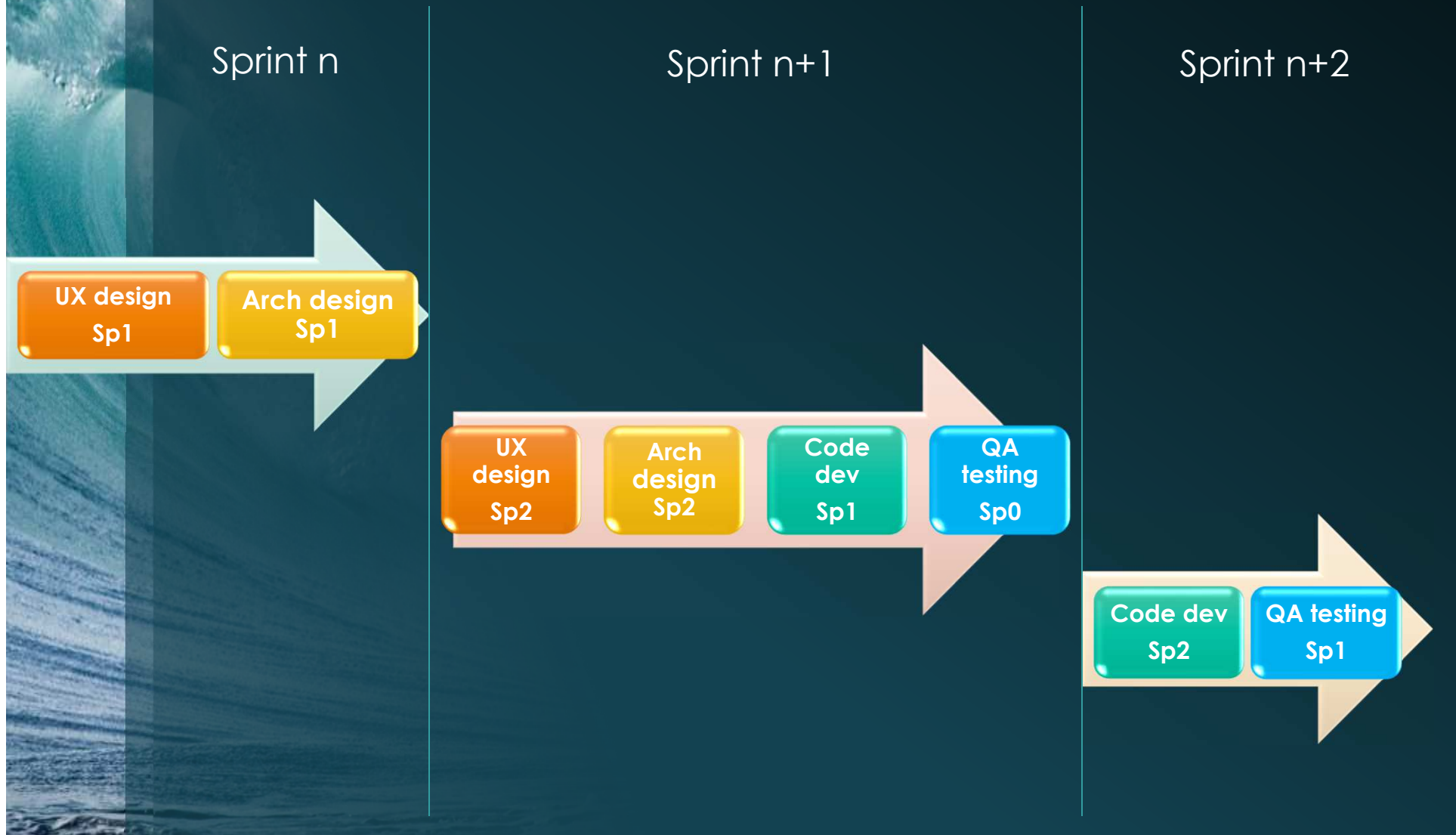


Slide 5

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Andrew Soswa, 11/8/2018

Best Agile Scrum strategy – ‘waterfall’ Sprints





Agile testing retrospective lessons

- Full end-to-end product testing is seldomly completed on Agile projects
- Most testing is based on **risk-driven testing scenarios**
 - QA tests the biggest impact/risk of failure in the product/service
- There is limited time to coach junior QA
 - Fast pace of Agile (not only in Scrum) depends on knowledgeable, self-managing individuals
- The entire team *owns* the quality
 - QA team is not the last team holding 'hot potato' before product/service is deployed to production

DevOps



DevOps misconceptions

- Is it a simple migration process or a tool?
- A fancy name for your development team?
- A team with a fancy name taking over development & testing?
- A fad that blows over in no time?

Let's ponder project deployment reality

Deployment
time!



Wonder what's
coming this
time!*&@#



From humble beginnings...

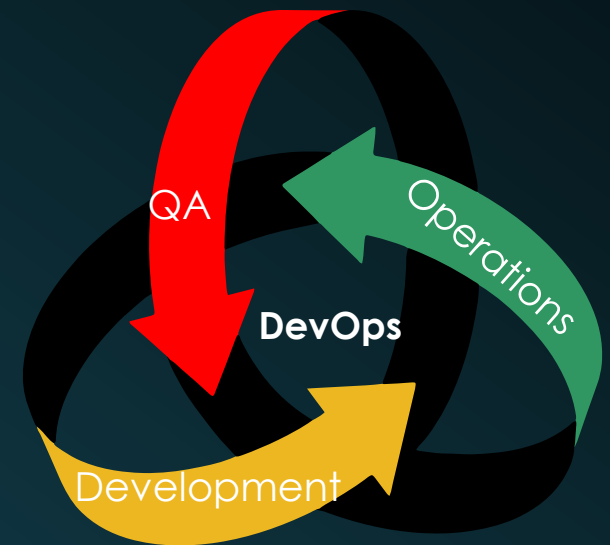
- Dated to early 2000's EMS (Enterprise Management Systems) failures (and attempts at mitigating them)
- The official name was coined in 2009 by Patrick Debois and Andrew "Clay" Shafer
- Officially kicked off by Debois when he held the first DevOpsDays event in 2009



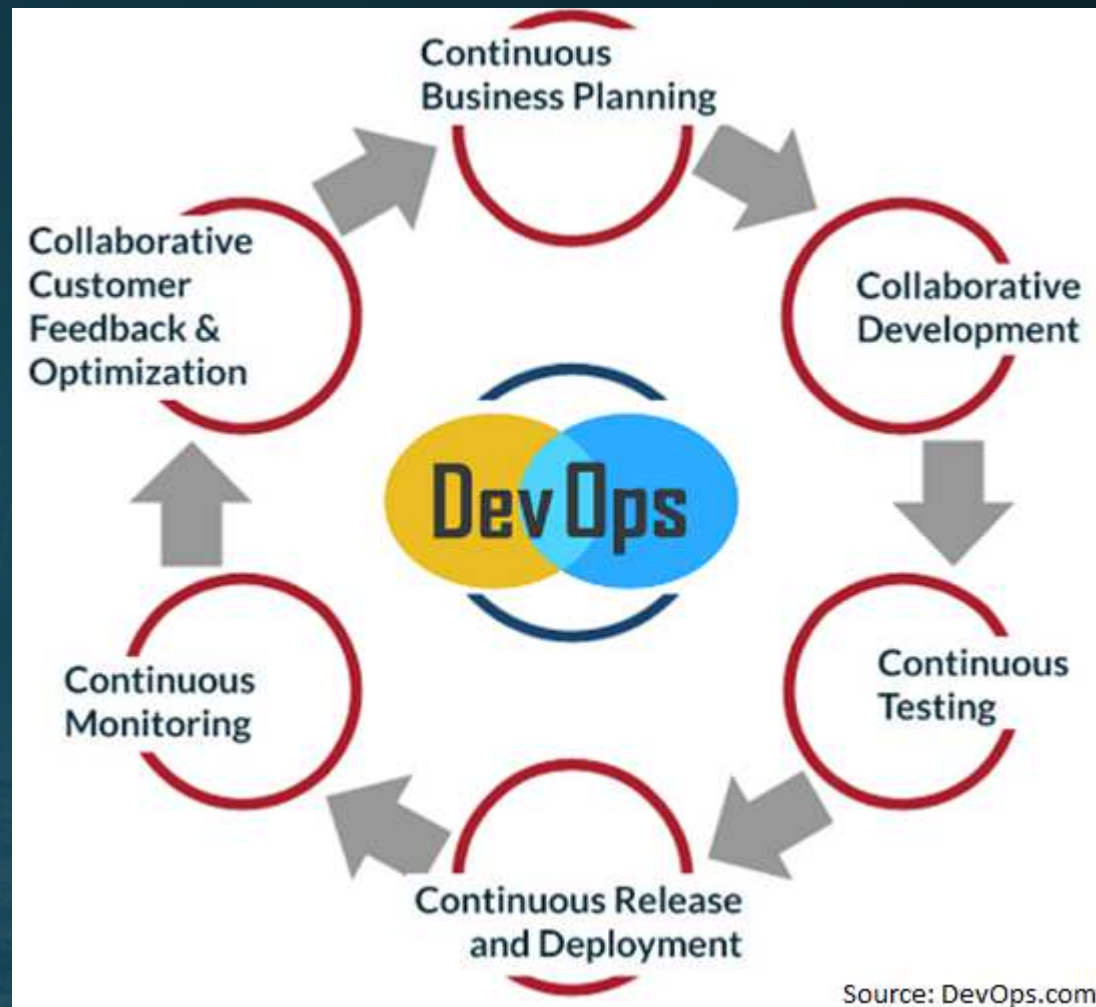
Let's discover (not-so-novel) idea

What about if we:

- Have a support team that works on the code/product to consistently automate it
- Automate it to continuously improve product's quality and deployment time
- Deploy it in time from project to operational phase on an established schedule
- Establish schedule of releases that supports business objectives
- Support business objectives as a support team



What role DevOps perform in an enterprise?



DevOps engineer job role at Amazon

A DevOps engineer must be able to build and operate fast and scalable workflows. A DevOps engineer should have the following competencies:

Mandatory	Desirable
<ul style="list-style-type: none">• Deep software architecture and programming skills• Strong practical Linux- and Windows-based system administration skills in a cloud or virtualization environments• Experience building sophisticated and highly automated infrastructure• Experience with seamless/automated build scripts used for release management• Understanding and experience with tagging	<ul style="list-style-type: none">• Experience with Chef, Puppet, Salt, or Ansible in production environments with many nodes• Familiarity with CloudFormation and JSON• Strong scripting skills (PowerShell, Python, Bash, Ruby, Perl, etc.)• Knowledge of networking VPNs, DNS, load balancing, and firewalling• Familiarity with monitoring tools such as Nagios, Incinga, and SiteScope• Experience with automated testing tools (i.e., Selenium and Jmeter)• Understanding and experience with code deployment• Understanding of service-oriented architecture

Source: <https://aws.amazon.com/training/course-descriptions/job-roles/>

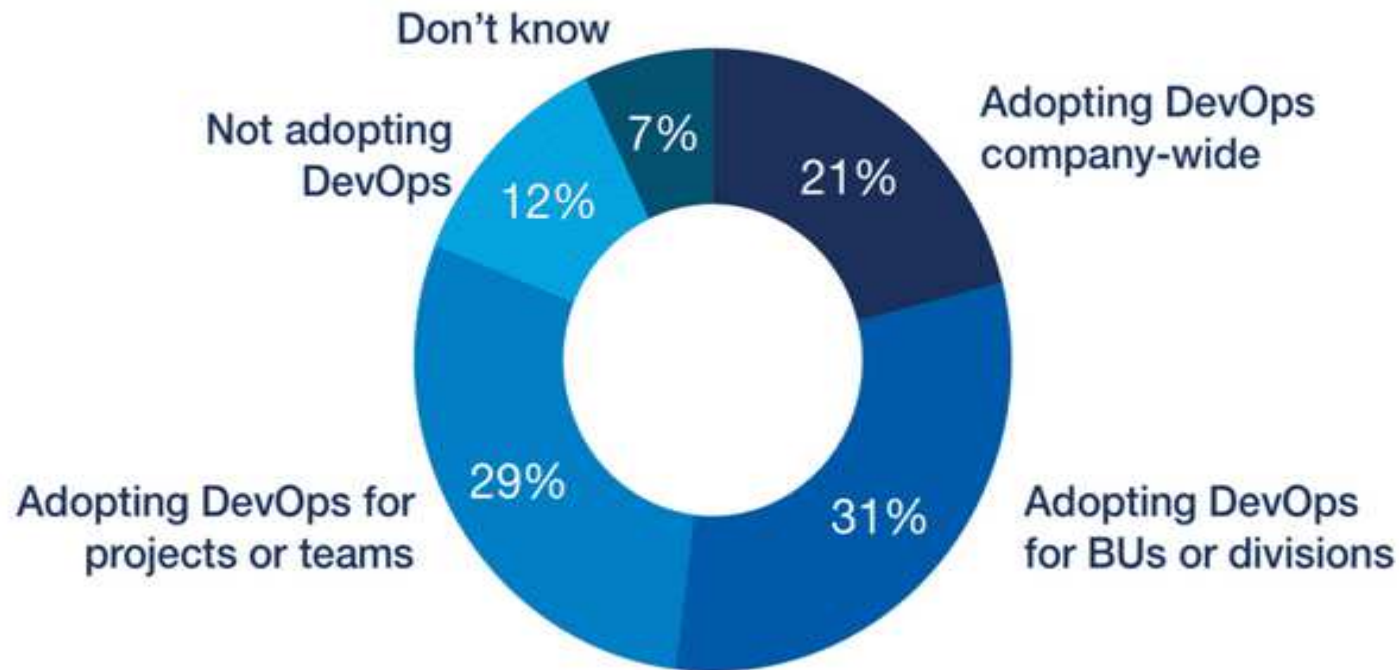


Key DevOps role features

- Experience in various infrastructure, software, and network frameworks and tools
- Knowledge of development and deployment methods
- Mindset to simplify and automatize processes and working features

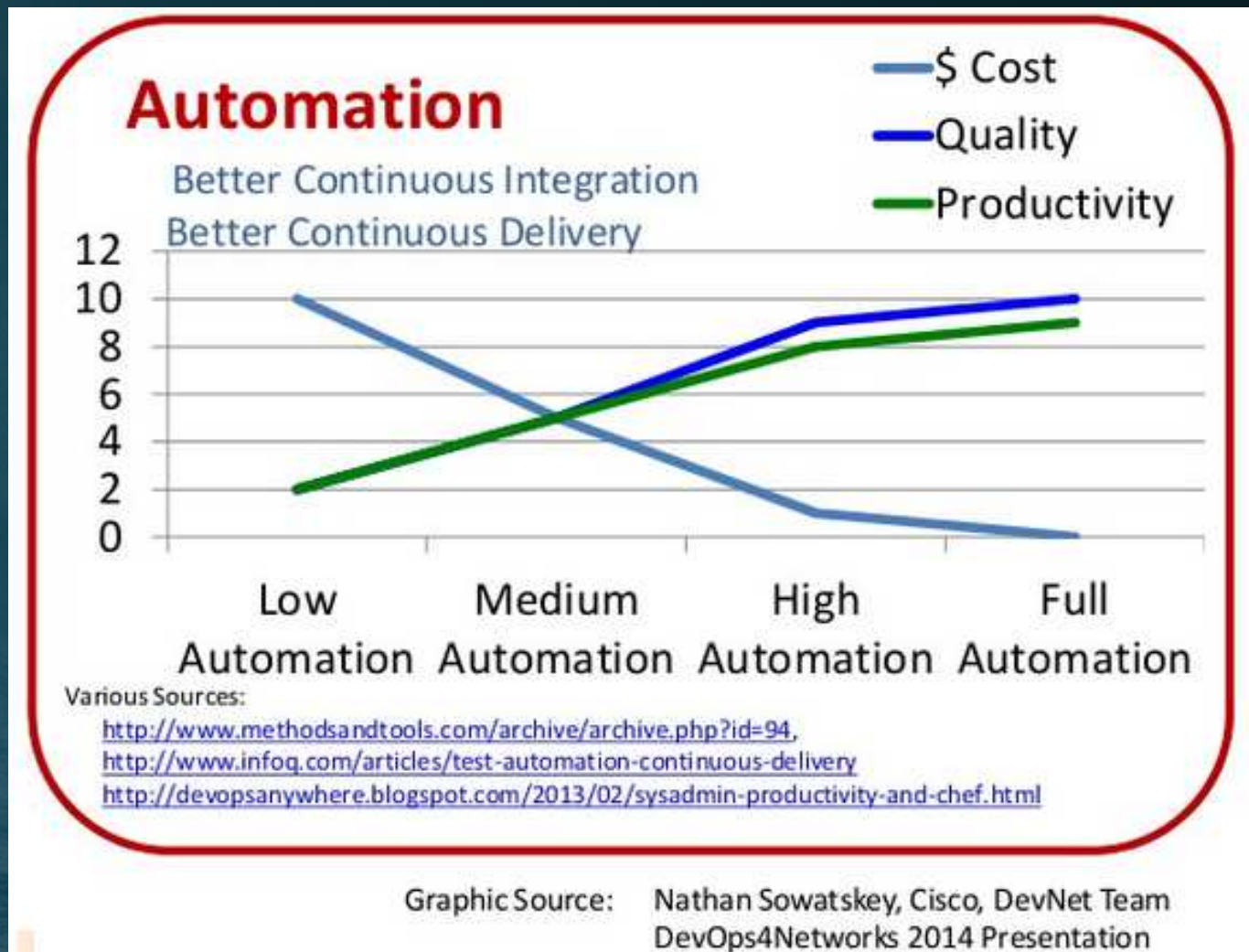
DevOps adoption in large enterprises

Enterprise Adoption of DevOps



Source: RightScale 2016 State of the Cloud Report

Automation benefits





How to start DevOps in any team

- Recognize that DevOps is:
 - Business, technological, and a cultural change
 - Not owed by one team member/manager*
 - Allow team to learn best practices in:
 - Version control & monitoring
 - Continuous build
 - Automated testing
 - Optimized deployment
 - Provisioning (seamless transitioning)
 - Start small and consistently improve
- *unless there is a position created for that purpose

DevOps in Agile Scrum

- If possible, create a stand-alone DevOps role
- Otherwise, assign DevOps responsibilities to various team members
- Involve business and operations teams
- Create User Stories and add them to sprints
- If needed - create Release Sprints



Use Team Retrospectives to improve 3 P's:

- Project's deliverables (product/service)
- People
- Processes

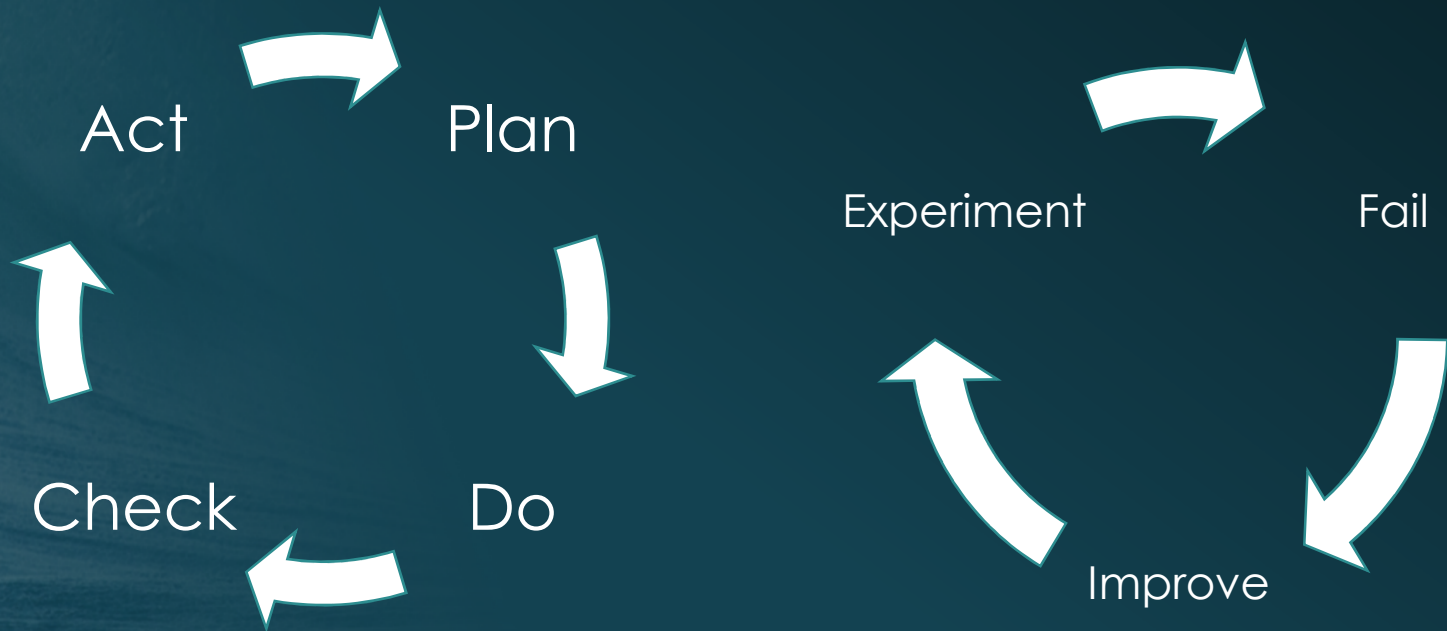


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DevOps allow system improvement

Incremental Agile failure \neq waste

- Experimentation, failure, and improvements are essential to creating a meaningful change



Three stages of Agility in DevOps

- Know Agile
- Do Agile
- Become Agile





Relentlessly improve

Agile is NOT something that you
become...

... Agile is something that you
become more of



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