DevOps practice

An Overview

DevOps

"A cross-functional **community of practice** dedicated to the study of building, evolving, and operating **rapidly changing, resilient systems** at scale."

Jez Humble - Author of "Lean Enterprise" and "Continuous Delivery"

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DevOps guiding principles (Three Ways)

1

Systems Thinking

Emphasizes the performance of the entire system, as opposed to the performance of a specific silo of work or department

2

Amplify feedback loops

The goal of almost any process improvement initiative is to shorten and amplify feedback loops so necessary corrections can be continually made

3

Culture of experimentation

Create a culture that fosters continual experimentation, taking risks and learning from failure; and understanding that repetition and practice is the prerequisite to mastery

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Gene Kim - Author of "The Phoenix Project"

Key DevOps characteristics (CALMS)

Culture

The DevOps movement seeks to unify teams and create easy channels of communication and collaboration

Lean

The DevOps movement helps deliver value to the customer and to continuously improve the ability to deliver value by removing waste

Automation

Automation plays a critical role in DevOps because it allows us to streamline operations, more effectively document and deliver, and collaborate with others

Measurement

The DevOps movement seeks continuous improvement through experimentation, measurement, learning, and adjustment in iterative cycles

Sharing

In order to create an efficient cross functional team, an organization must learn to trust their team members with information and decision making authority in their respective areas. Avoid being the blocker.

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High-performing teams deploy more frequently and have much faster lead times.

200x 200x more frequent deployments

2,555x 2,555x shorter lead times

They make changes with fewer failures, and recover faster from failures.
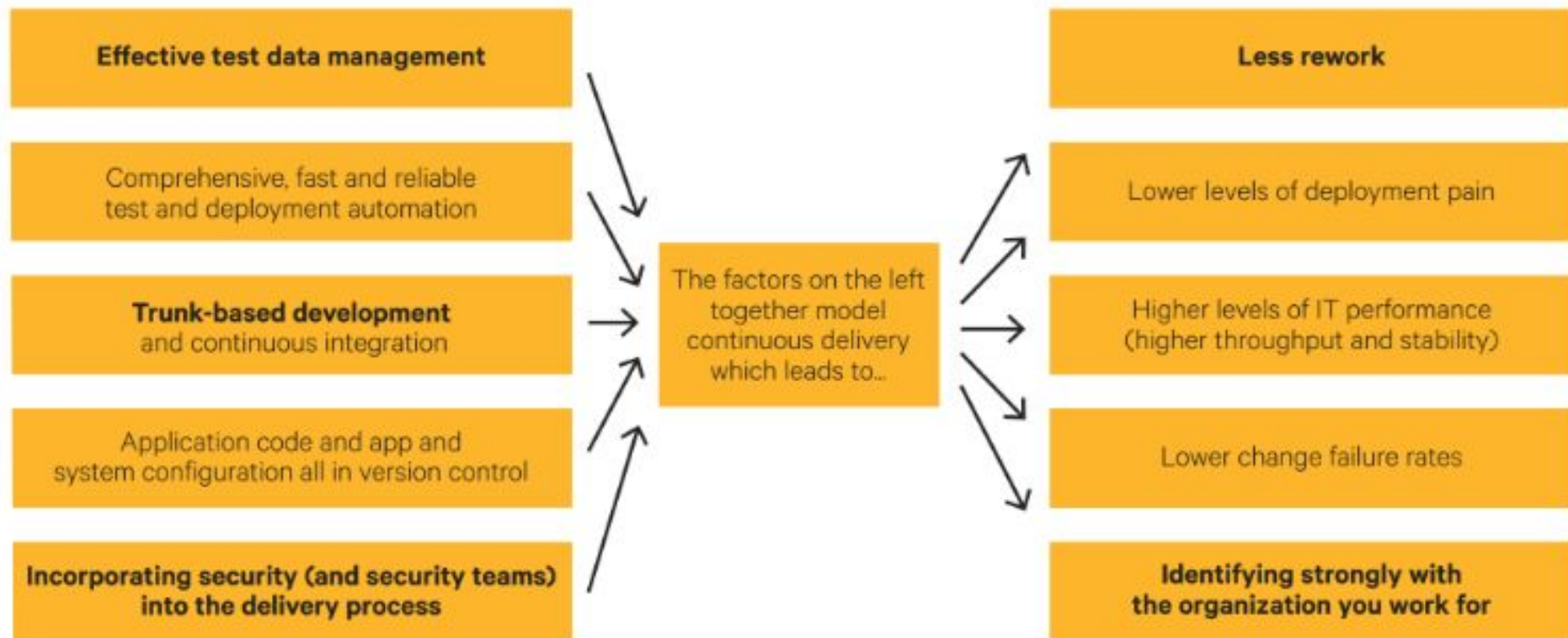
3x 3x lower change failure rate
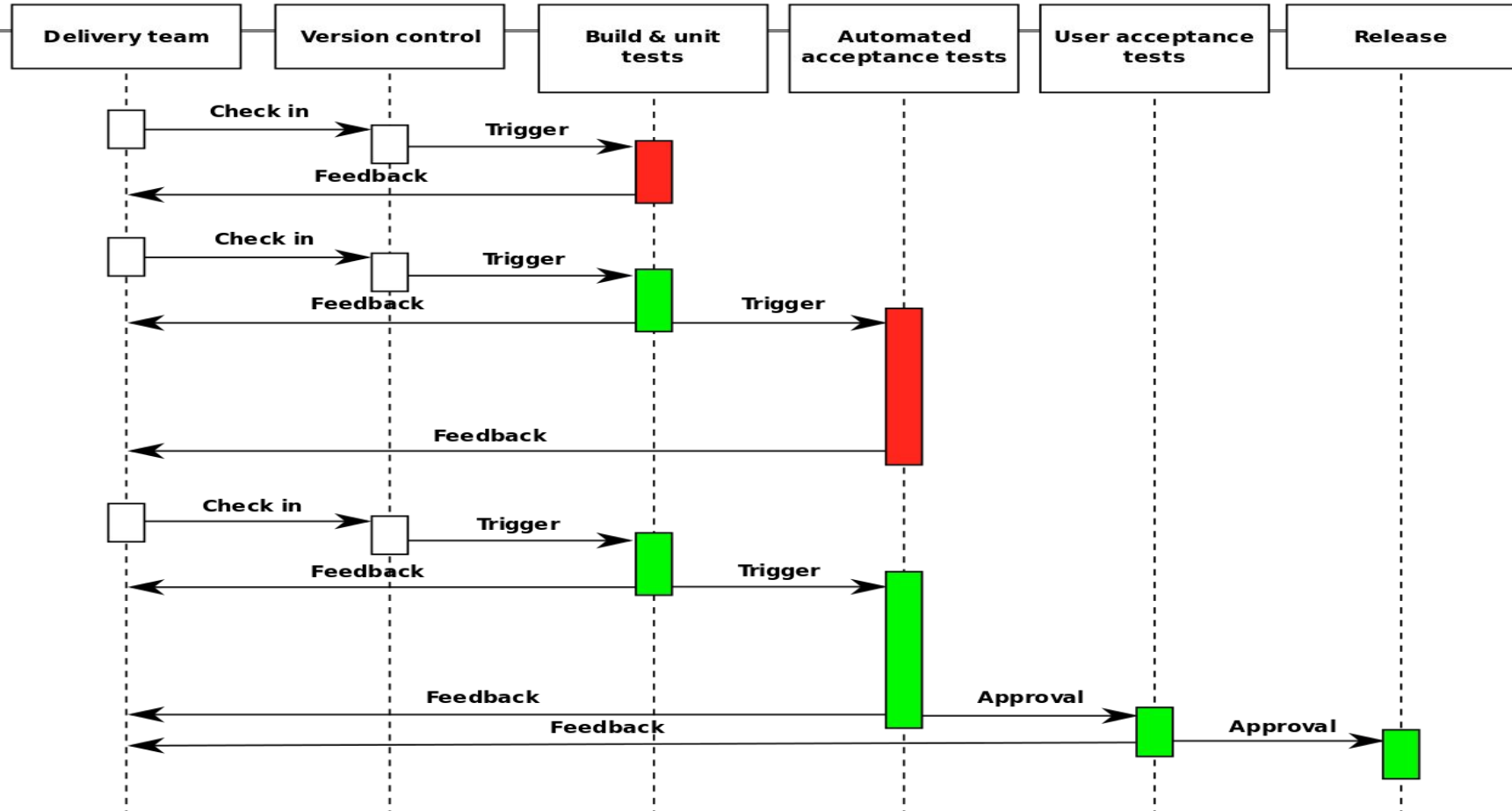
24x 24x faster recovery from failures

50% Less time spent remediating security issues

High-performing teams spend less time fixing security issues.

That's because they address security at every stage of the software development and delivery cycle, instead of retrofitting security at the end.

Effective test data management		Less rework
Comprehensive, fast and reliable test and deployment automation	The factors on the left together model continuous delivery which leads to…	Lower levels of deployment pain
Trunk-based development and continuous integration		Higher levels of IT performance (higher throughput and stability)
Application code and app and system configuration all in version control		Lower change failure rates
Incorporating security (and security teams) into the delivery process		Identifying strongly with the organization you work for

Source: Puppet – 2016 State of DevOps Report

Continuous Delivery

DevOps is a philosophy to solve a people problem.

Our goal is to get people working effectively together:
- with open accessible communication,
- effective and secure sharing,
- efficient tools and processes,
- an inclusive welcoming culture,
- and an eye for continuous assessment and improvement.

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