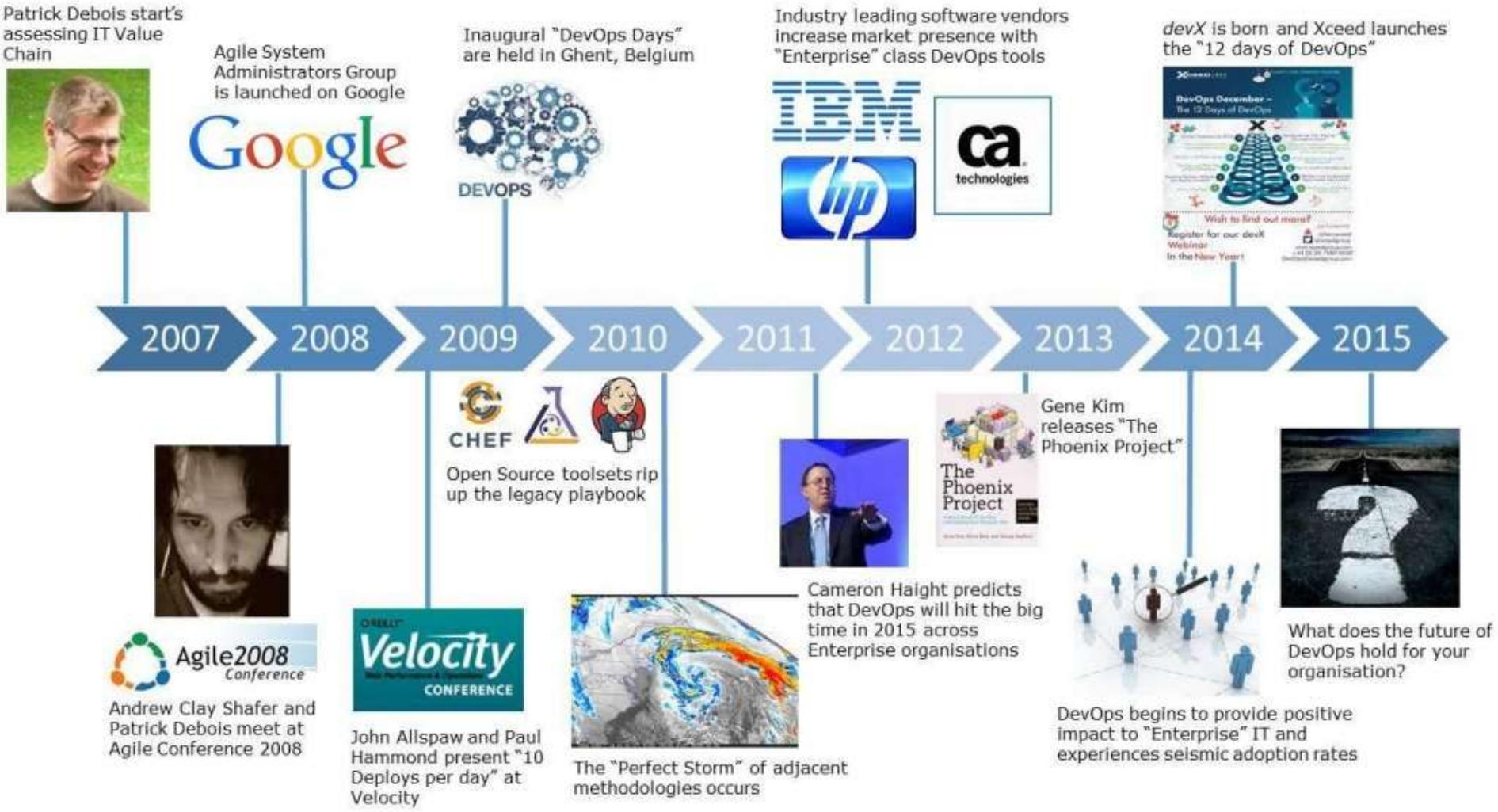
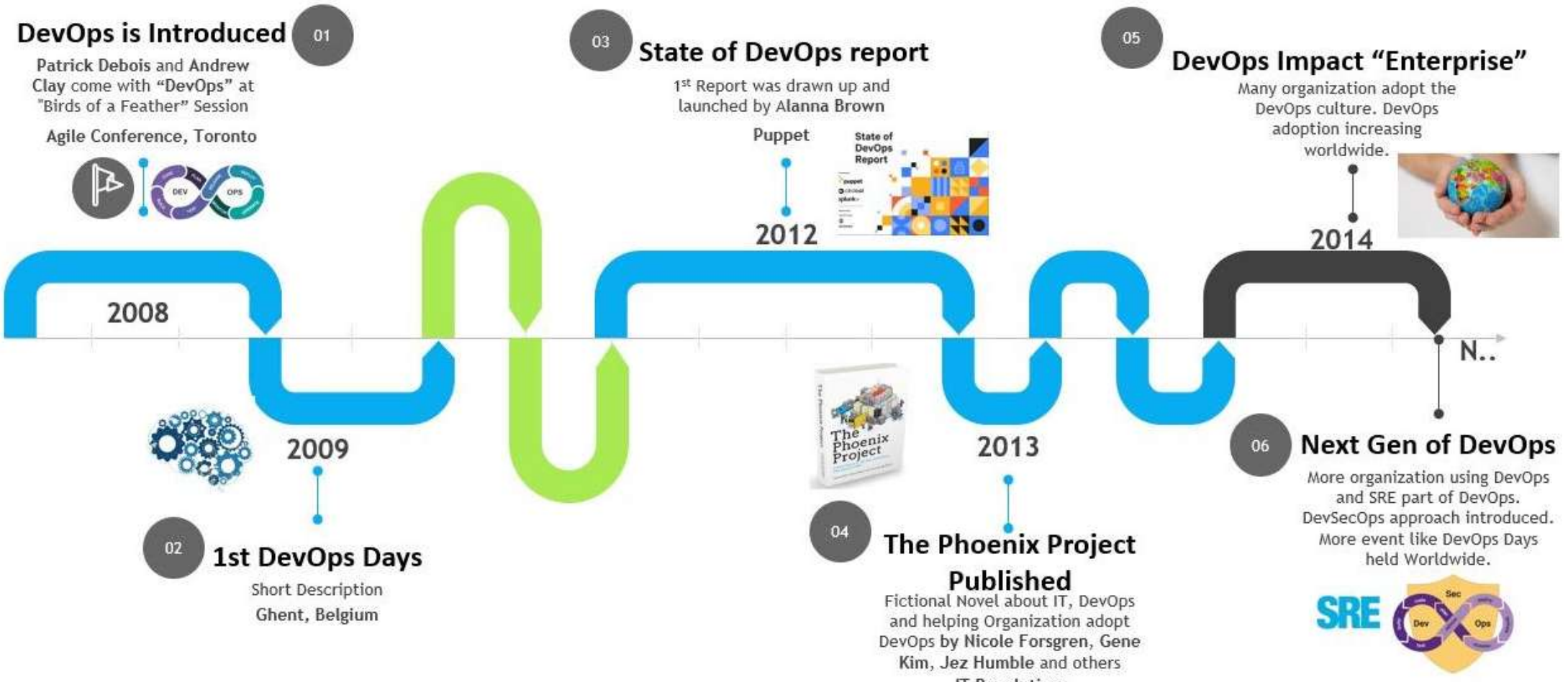
DevOps

History


Patrick Debois start's assessing IT Value Chain
Agile System Administrators Group is launched on Google
Google
Inaugural "DevOps Days" are held in Ghent, Belgium
DEVOPS
Industry leading software vendors increase market presence with "Enterprise" class DevOps tools
IBM
ca technologies
devX is born and Xceed launches the "12 days of DevOps"
2007
2008
2009
2010
2011
2012
2013
2014
2015
CHEF
Open Source toolsets rip up the legacy playbook
Agile2008 Conference
Andrew Clay Shafer and Patrick Debois meet at Agile Conference 2008
Velocity CONFERENCE
John Allspaw and Paul Hammond present "10 Deploys per day" at Velocity
The "Perfect Storm" of adjacent methodologies occurs
Cameron Haight predicts that DevOps will hit the big time in 2015 across Enterprise organisations
The Phoenix Project
Gene Kim releases "The Phoenix Project"
DevOps begins to provide positive impact to "Enterprise" IT and experiences seismic adoption rates
What does the future of DevOps hold for your organisation?

History


DevOps is Introduced
01
Patrick Debois and Andrew Clay come with "DevOps" at "Birds of a Feather" Session
Agile Conference, Toronto
DEV
OPS
2008
2009
02
1st DevOps Days
Short Description
Ghent, Belgium
03
State of DevOps report
1st Report was drawn up and launched by Alanna Brown
Puppet
State of DevOps Report
2012
The Phoenix Project
04
The Phoenix Project Published
Fictional Novel about IT, DevOps and helping Organization adopt DevOps by Nicole Forsgren, Gene Kim, Jez Humble and others
IT Revolutions
2013
05
DevOps Impact "Enterprise"
Many organization adopt the DevOps culture. DevOps adoption increasing worldwide.
2014
N..
06
Next Gen of DevOps
More organization using DevOps and SRE part of DevOps.
DevSecOps approach introduced.
More event like DevOps Days held Worldwide.
SRE
Sec
Dev
Ops

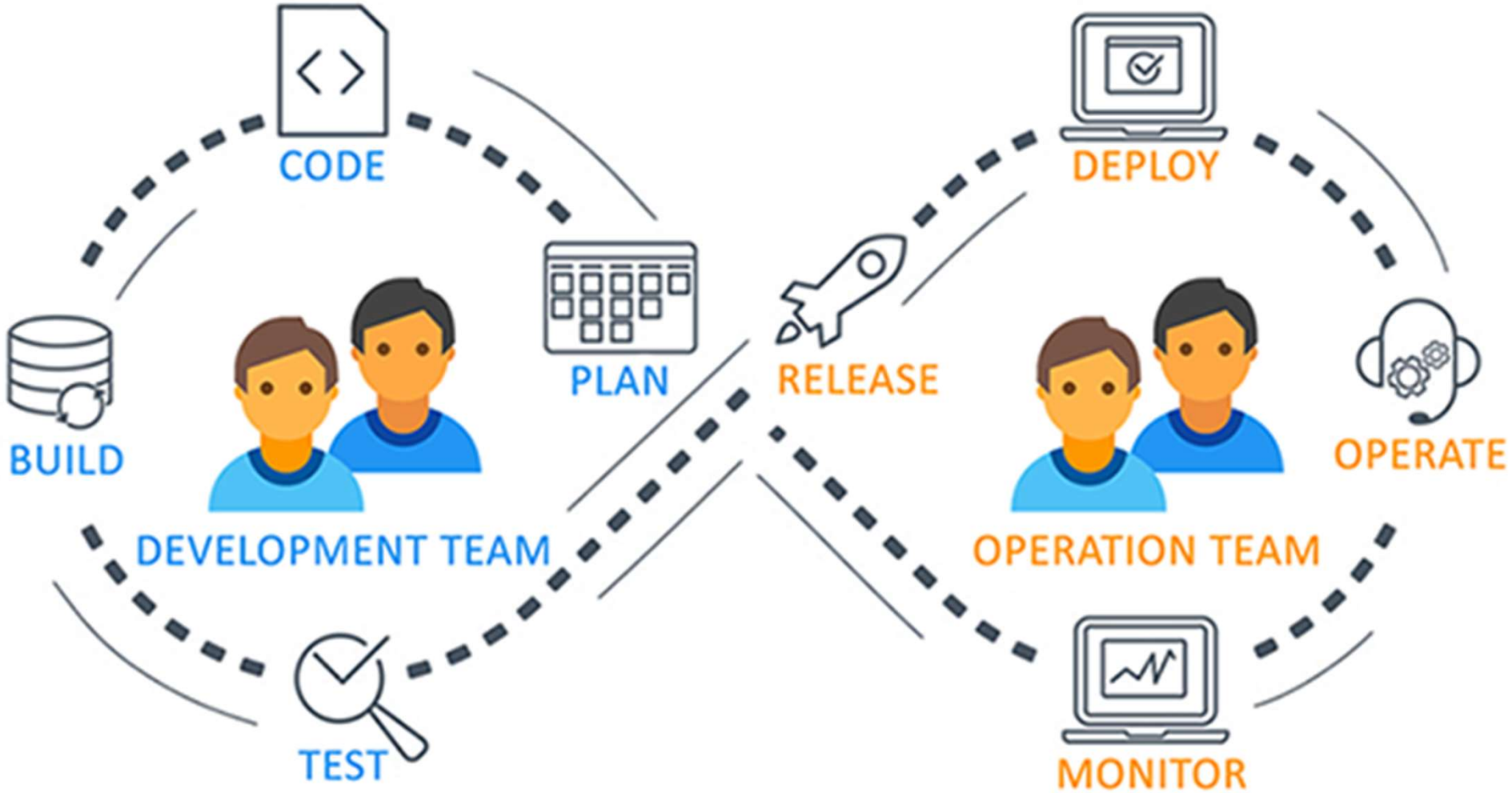
Configuration management

- Process of maintaining systems, such as computer hardware and software, in a desired state
- Configuration Management (CM) is also a method of ensuring that systems perform in a manner consistent with expectations over time.

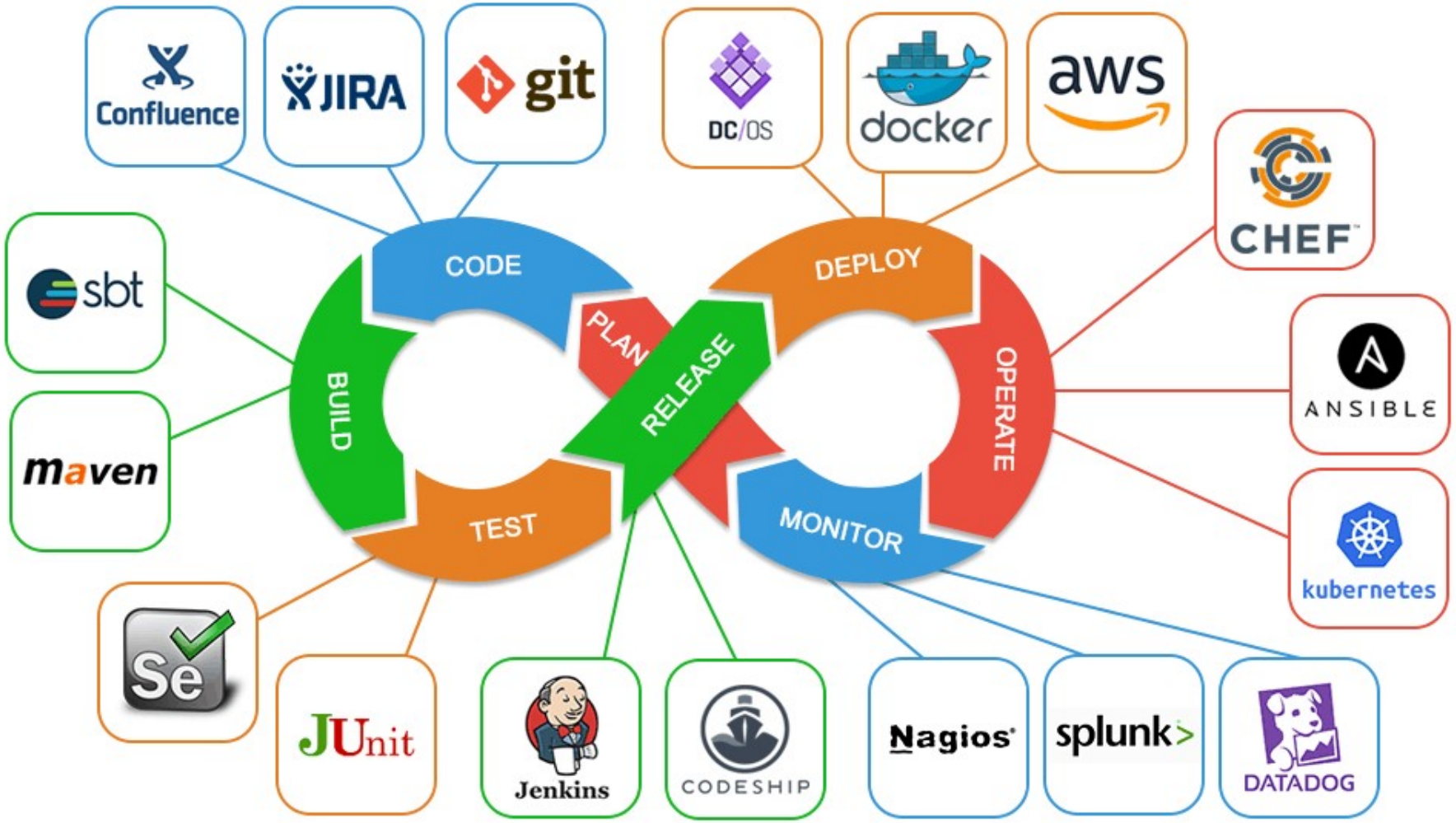
Benefits of Configuration Management

- Reduces risk of unpredictable system failures
  - because it offers perfect visibility and tracks every change made to test environments.
- Reduces costs
- Offers greater agility and better resolution of issues
- Implement faster restoration of services

What and why of DevOps?



What and why of DevOps?



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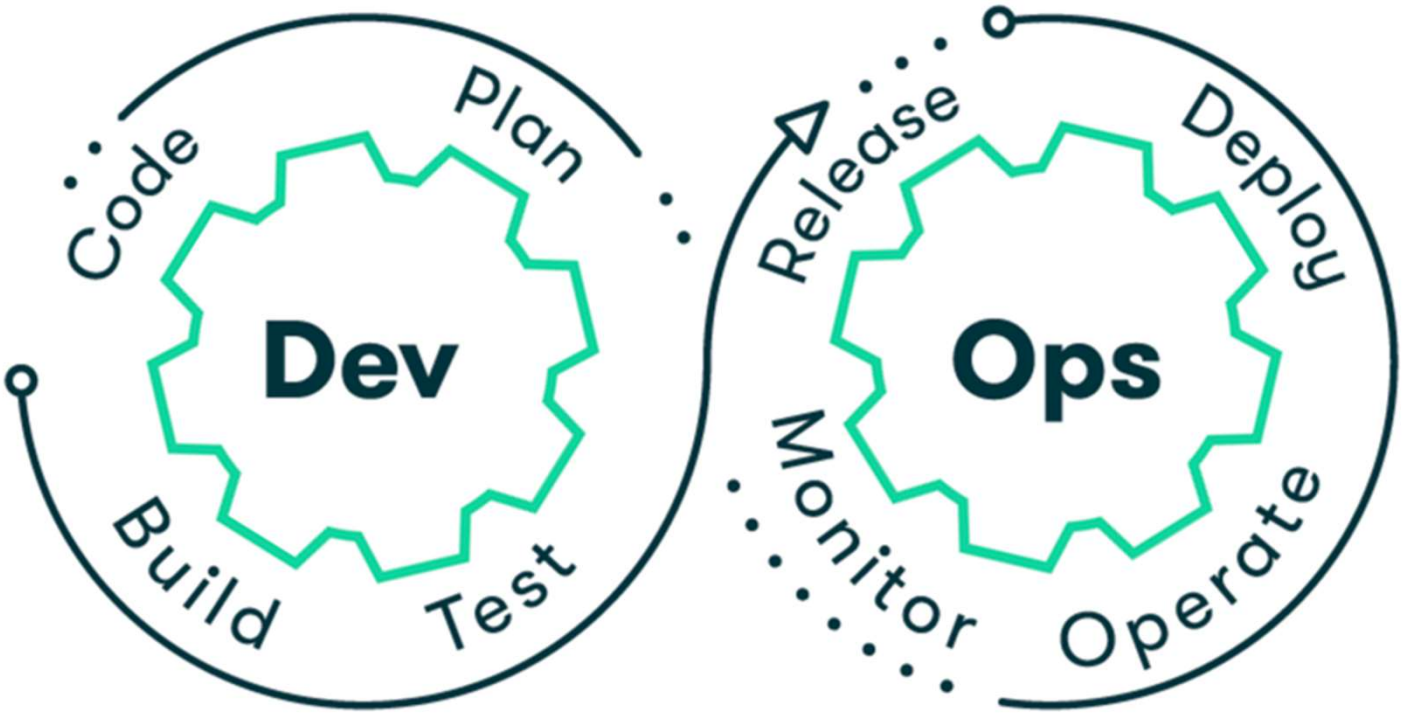

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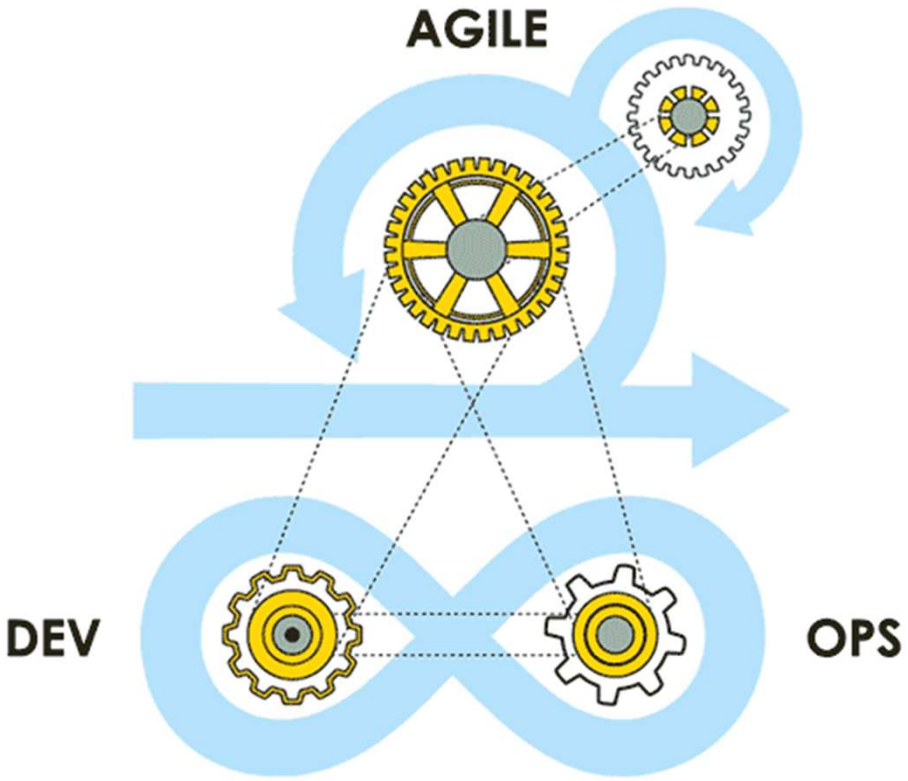
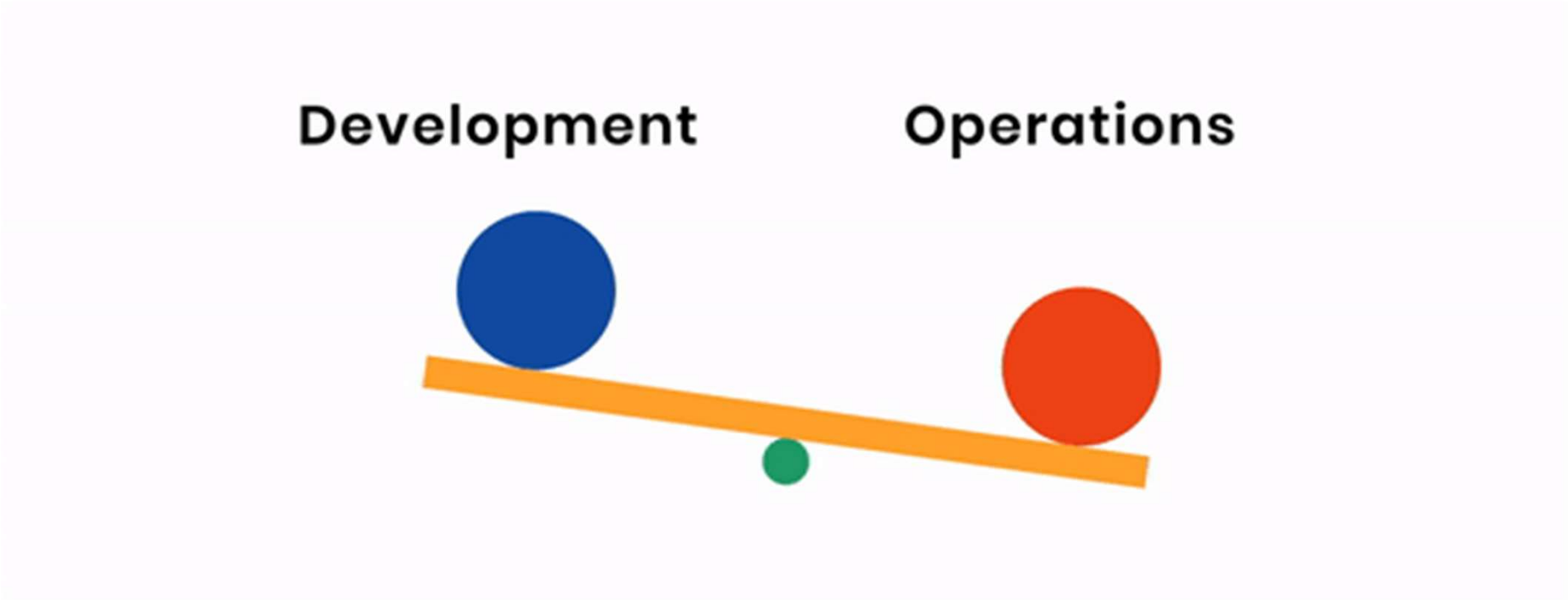
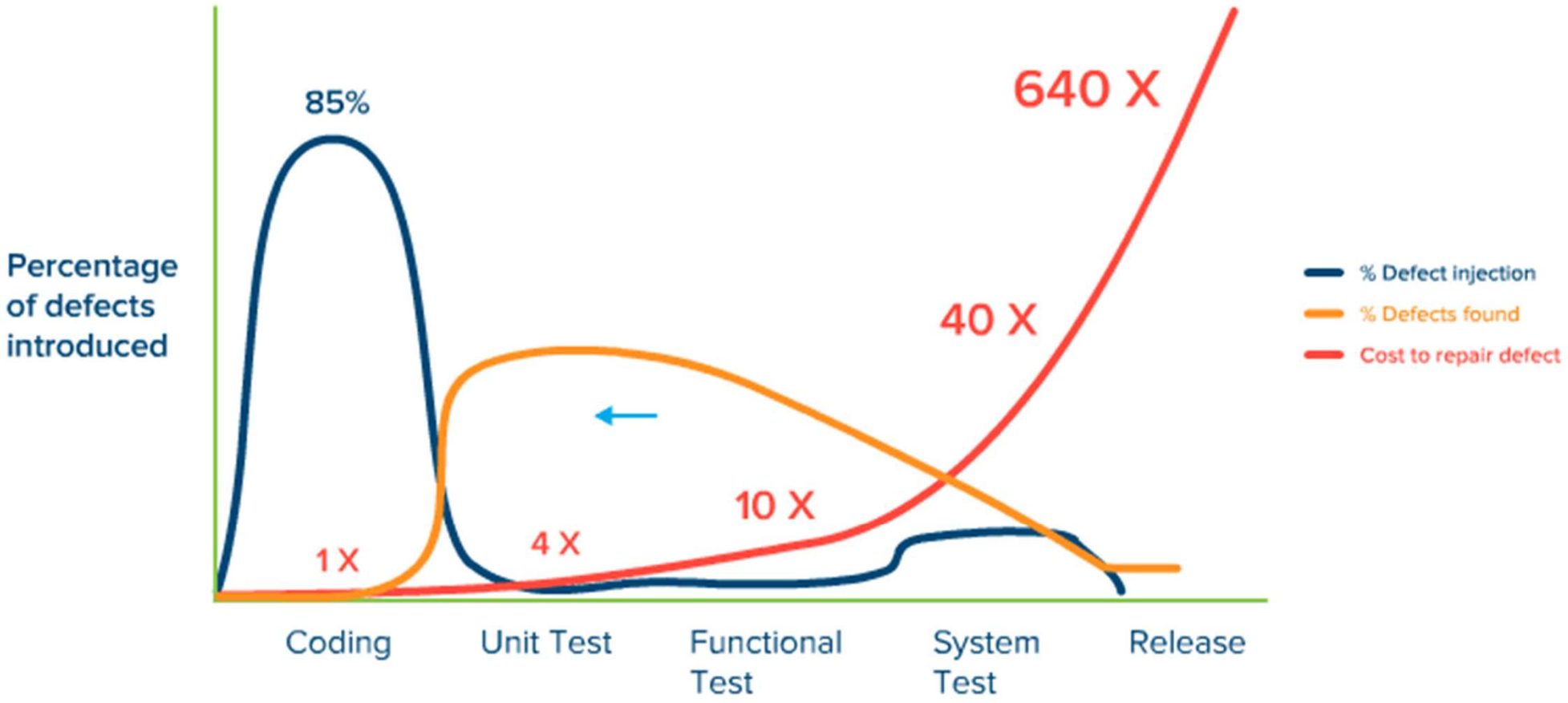


What and why of DevOps?

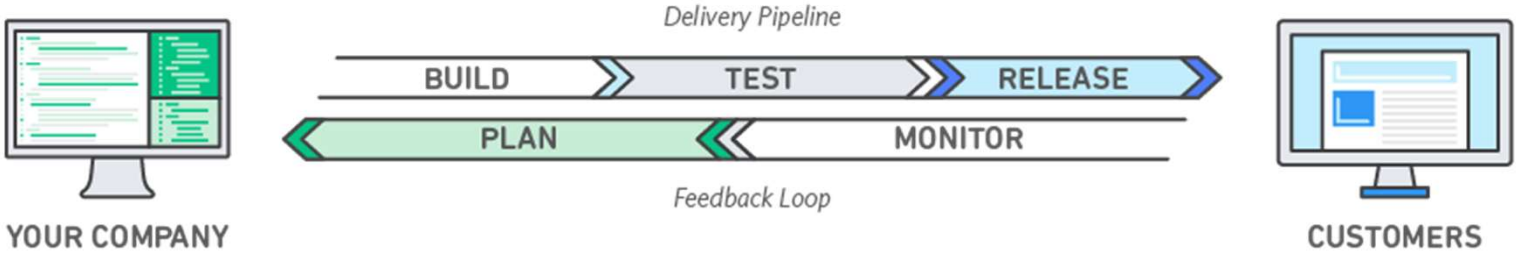


Early Defects vs Delayed Defects detection

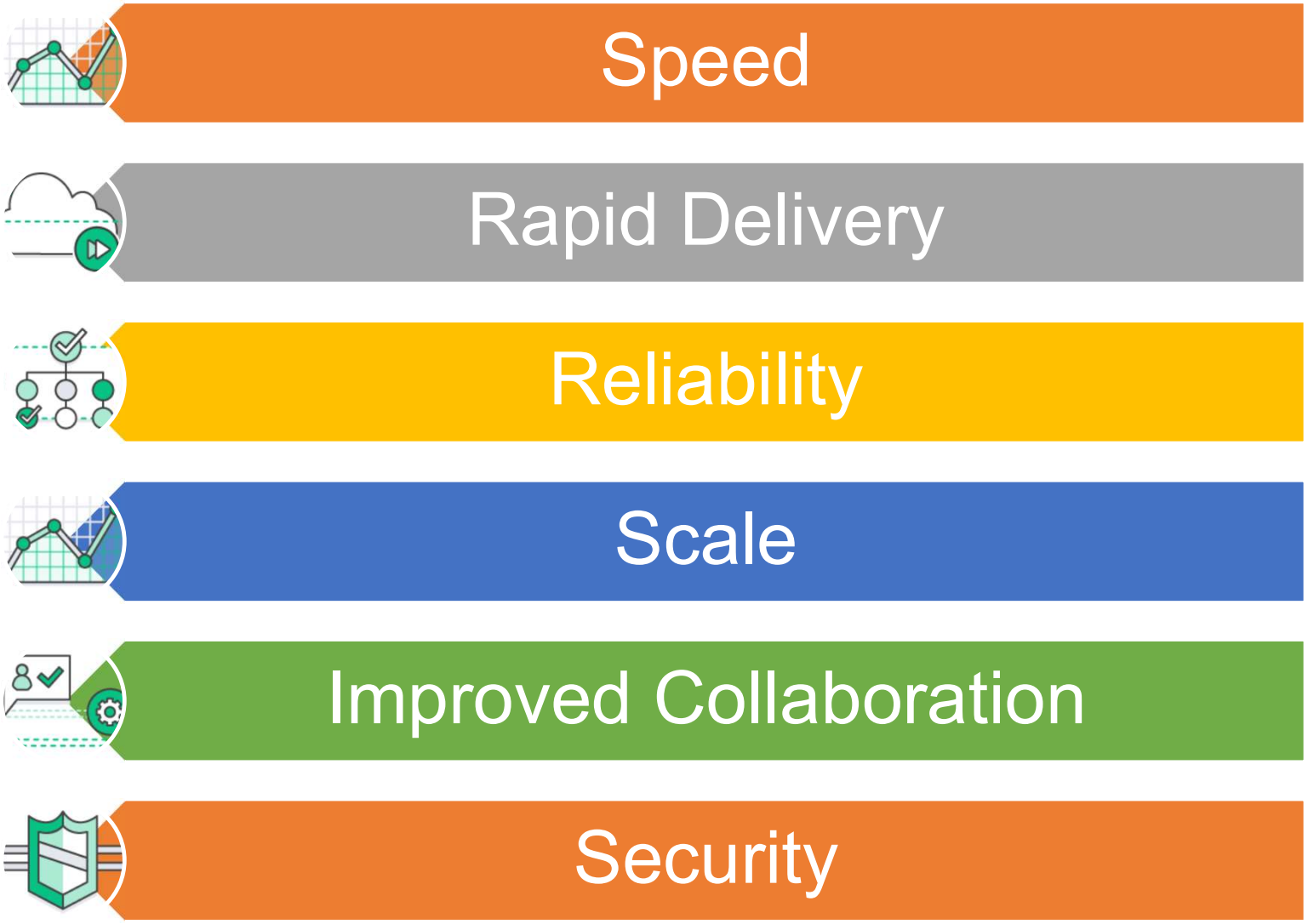


Jones, Capers. *Applied Software Measurement: Global Analysis of Productivity and Quality.*

DevOps as a solution and Advantages



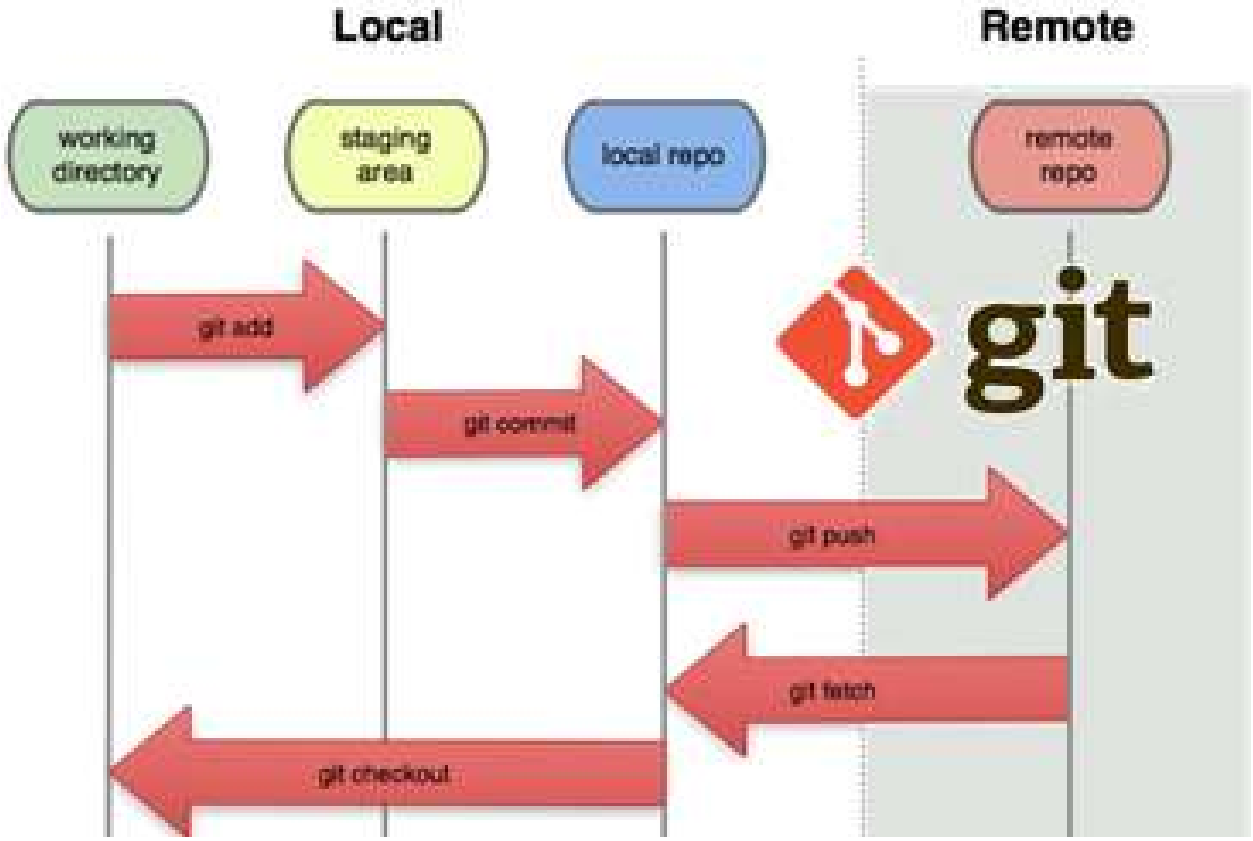
DevOps as a solution and Advantages



DevOps Tools – Overview and Use case

Source control

- To ensures for working on the right version
- Important for maintaining a single source of truth

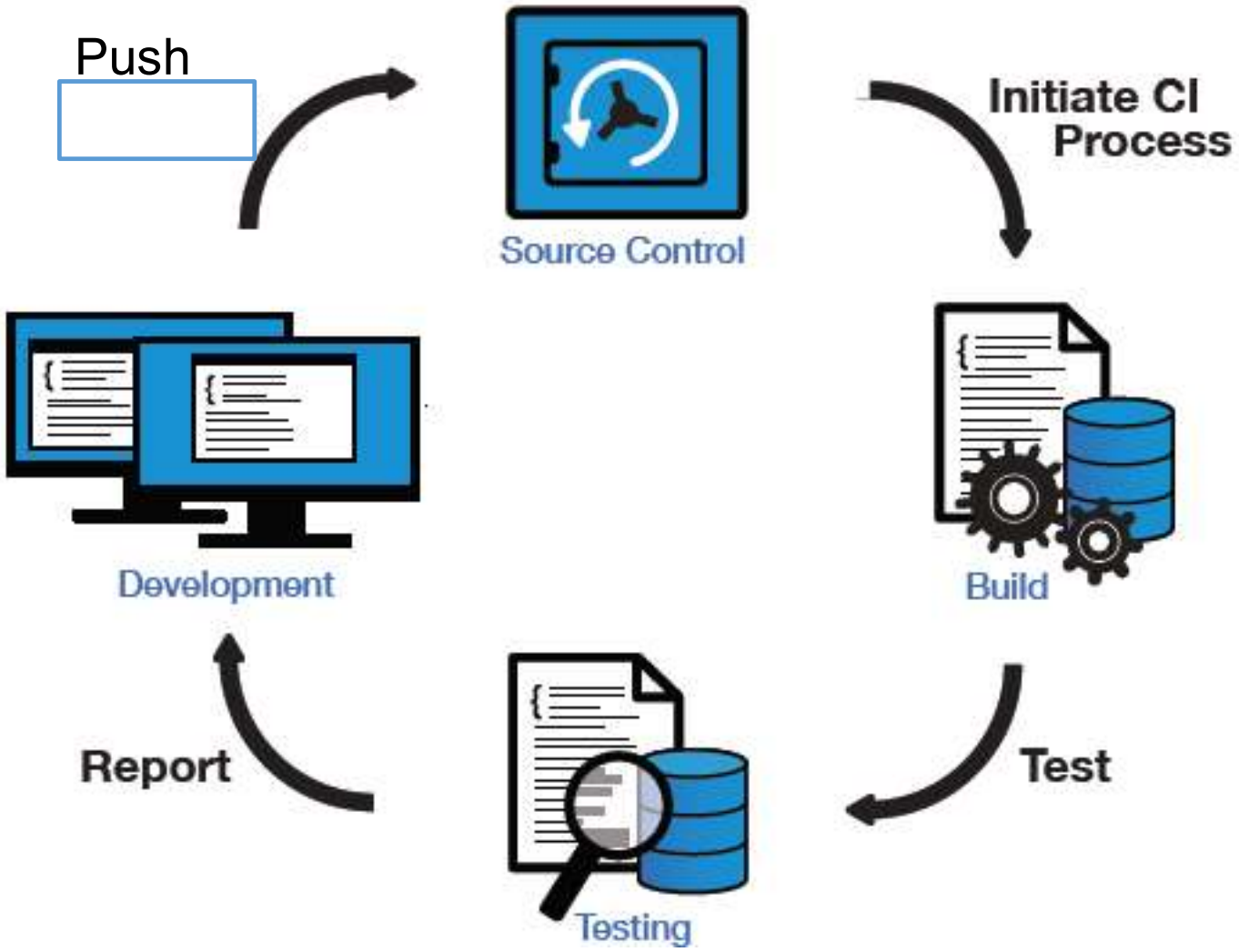


Source Code Management (SCM Tools)

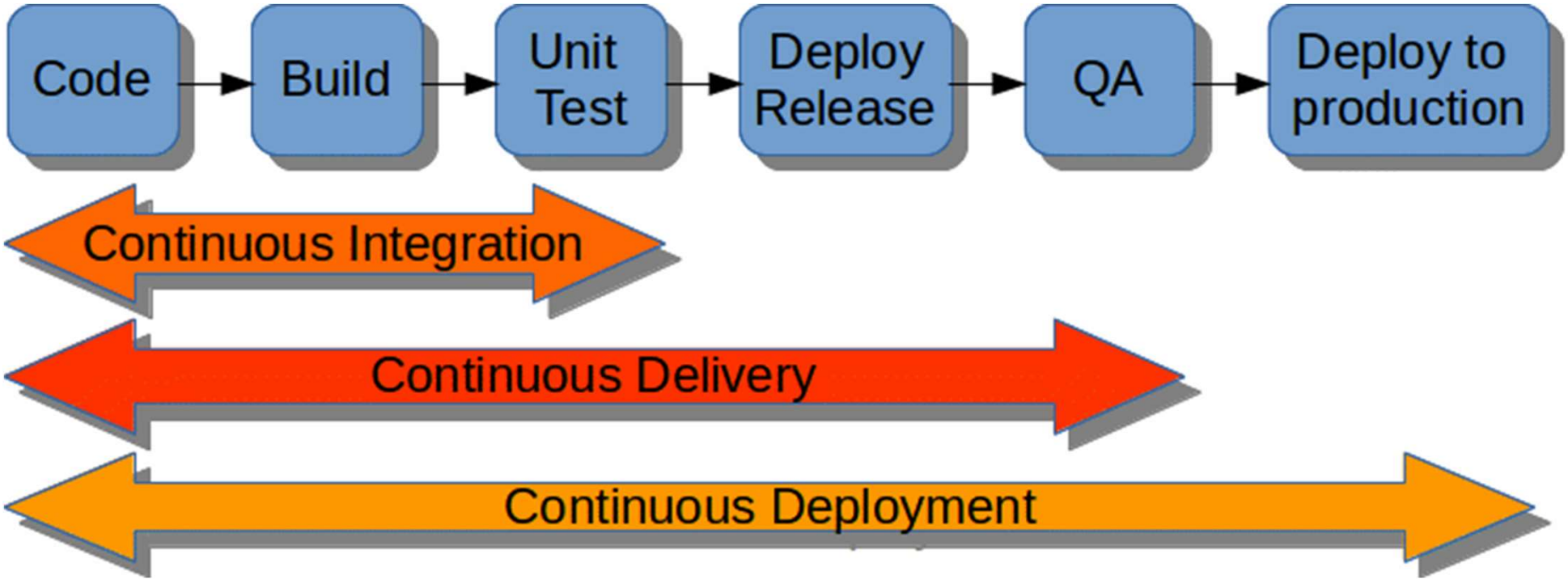
- Help to keep track of code
- Complete history of changes.

			
Git	Mercurial	AccuRev	Rational Team Concert
			
Sonatype Nexus Repository	Kallithea	Perforce	Deveo

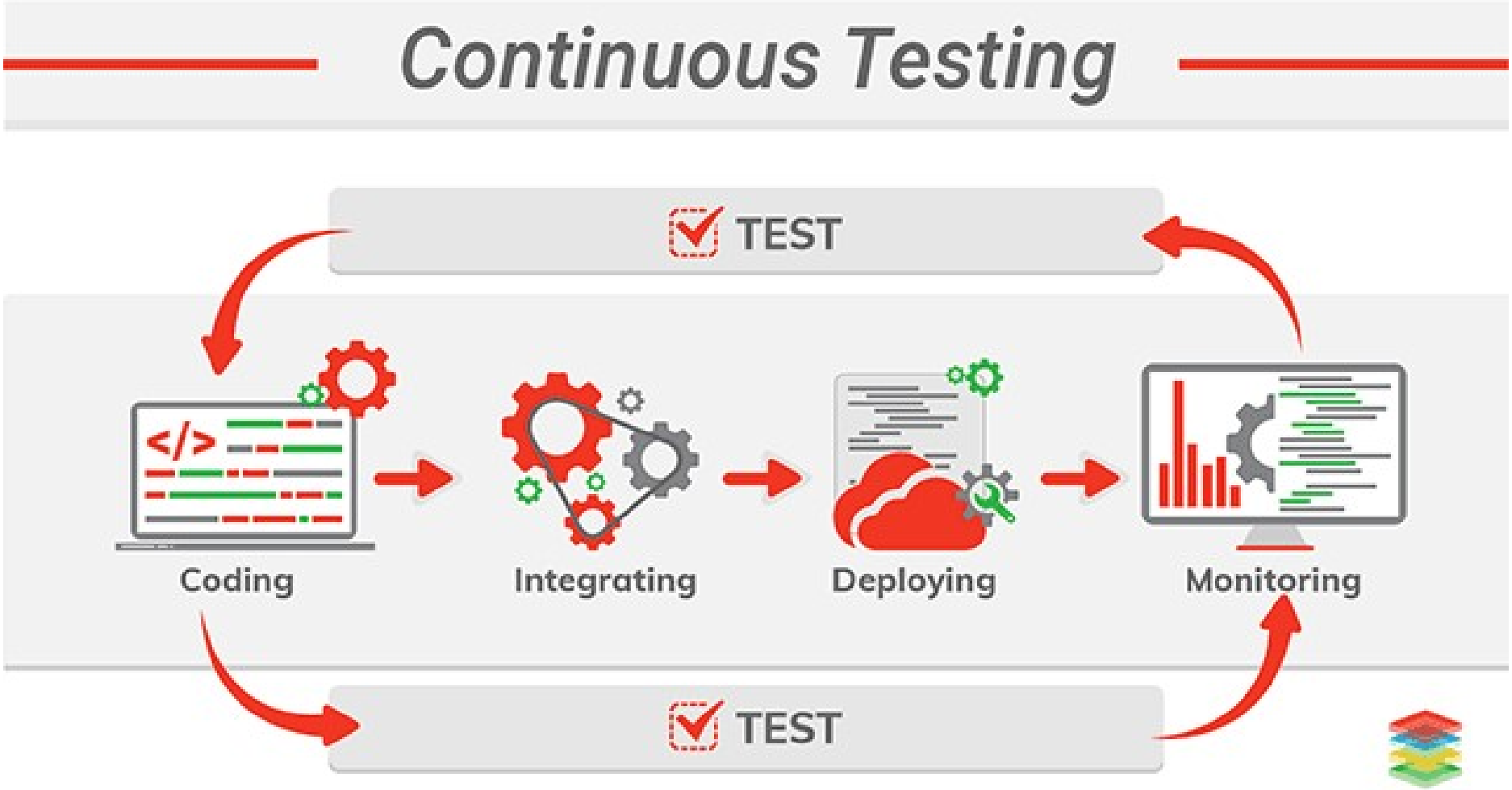
Continuous Integration



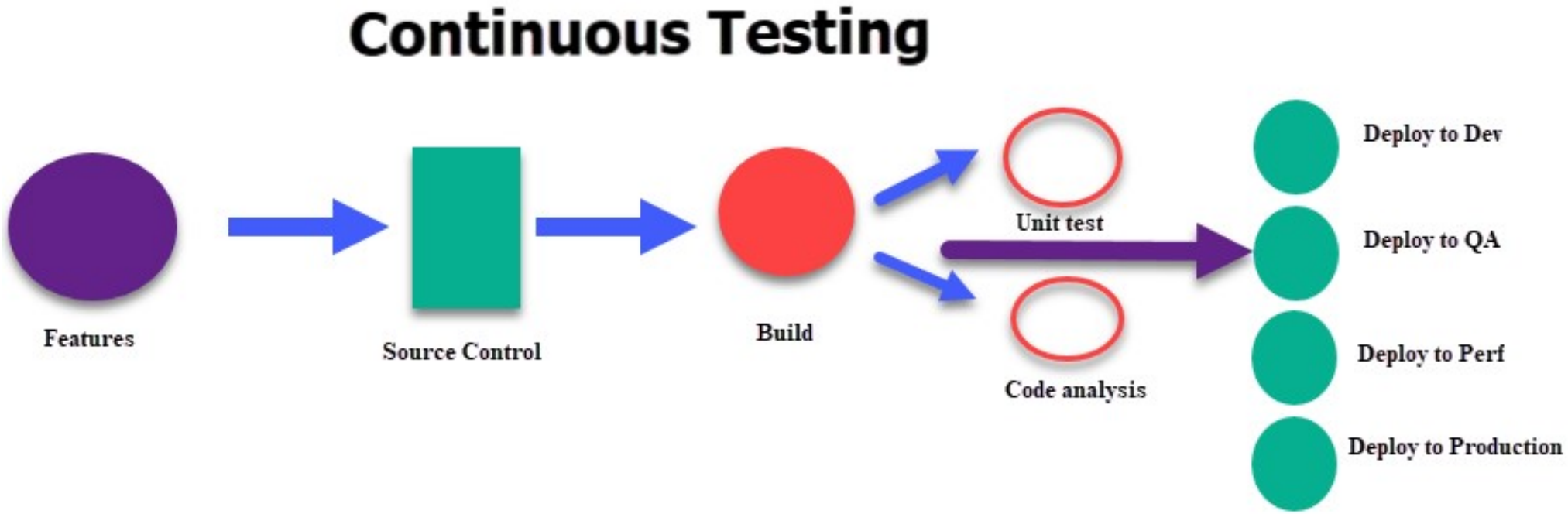
Continuous Delivery and Deployment



Continuous Testing



Continuous Testing



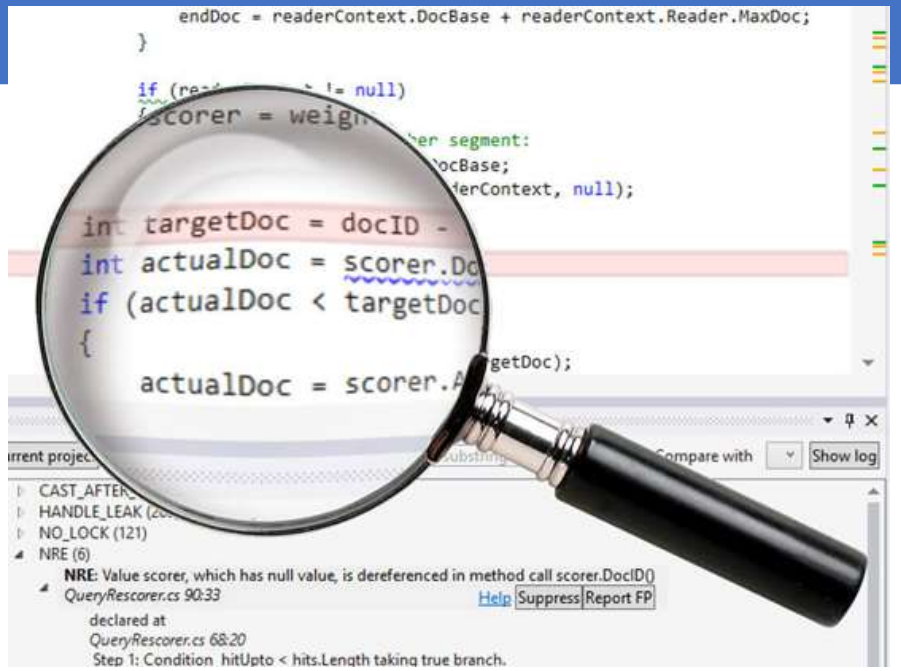
What Is Static Code Analysis?

A method of debugging

Examine source code before a program is run

Done by analyzing a set of code against a set of coding rules.

Performed early in development



Static Code Analysis Tool

Development teams are under pressure

Quality releases needed to be delivered on time

Coding and compliance standards need to be met

And mistakes are not an option.

That’s why development teams are using static analysis tools.

Static Analysis vs. Dynamic Analysis

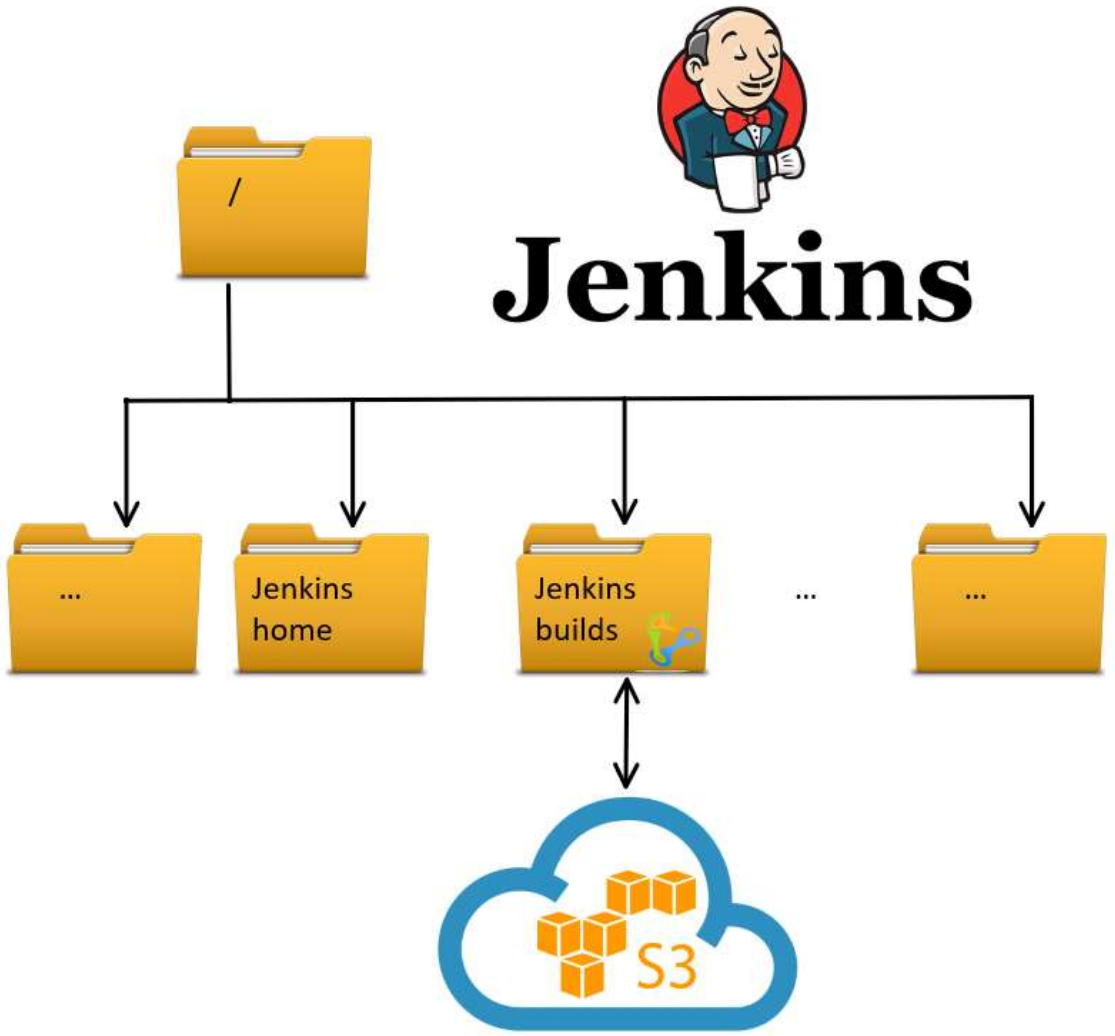
- Static analysis
  - Identifies defects before running a program (e.g., between coding and unit testing).

- Dynamic analysis
  - Identifies defects after running a program (e.g., during unit testing)

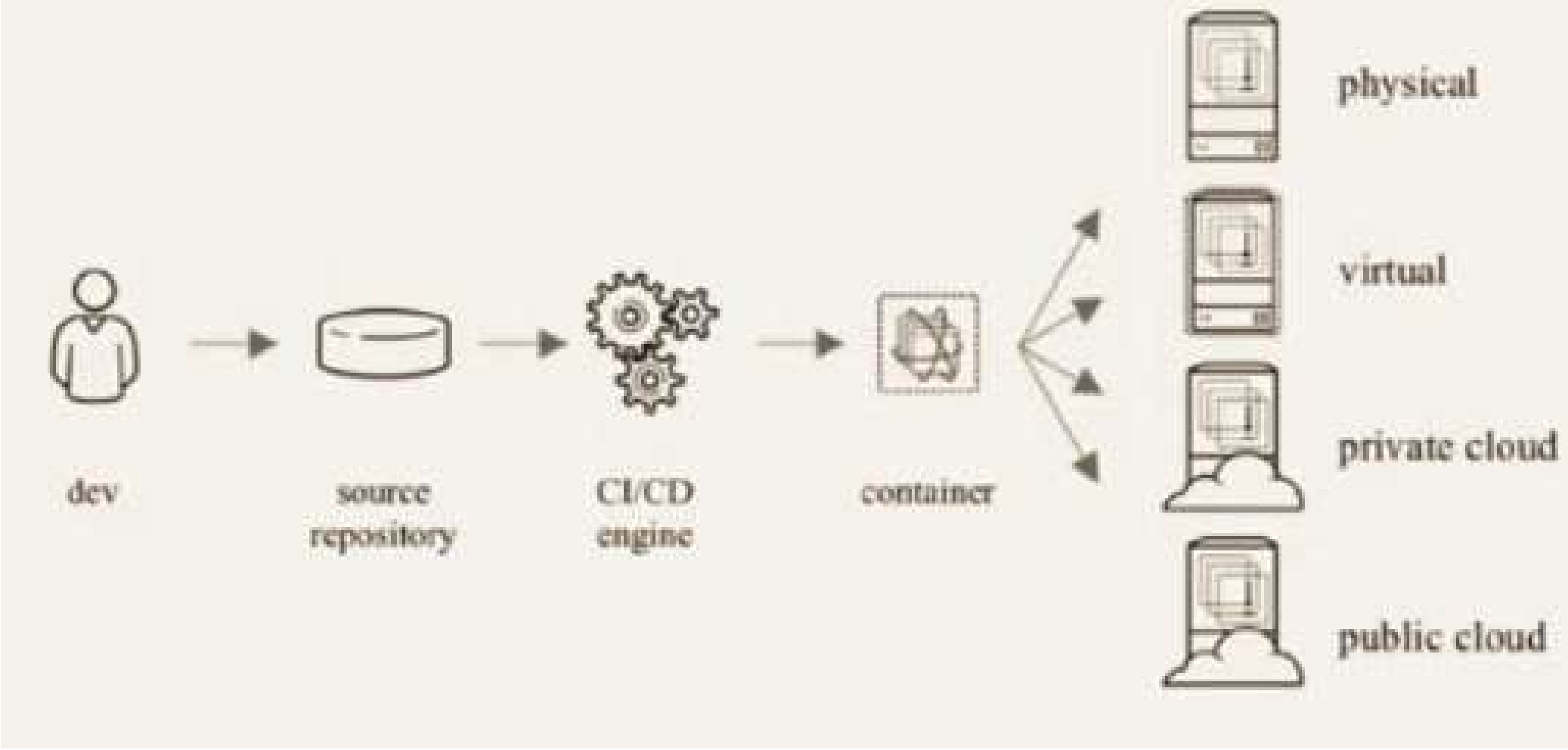
Few Static Code Analysis Tools

- Apache Yetus
- Code Dx
- ConQAT
- Coverity
- IBM Security AppScan
- Facebook Infer
- Lint
- SonarQube
- SourceMeter
- For complete list refer:
  - https://en.wikipedia.org/wiki/List_of_tools_for_static_code_analysis

Storage Artifacts



Containerization



Configuration Management

- A process for maintaining
  - Computer systems
  - Servers, and
  - Software in a desired, consistent state

Benefits of Configuration Management for Servers

- Quick Provisioning of New Servers
- Quick Recovery from Critical Events
- Version Control for the Server Environment
- Replicated Environments

Configuration Management Tools

Thanks