Increasing Agility by Understanding Risk

Simon Croome
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$ whoami
Simon Croome
Infrastructure Engineer
~~Financial Industry~~
Independent Consultant

Why Puppet?

Velocity

Configuration Management is only part of the solution

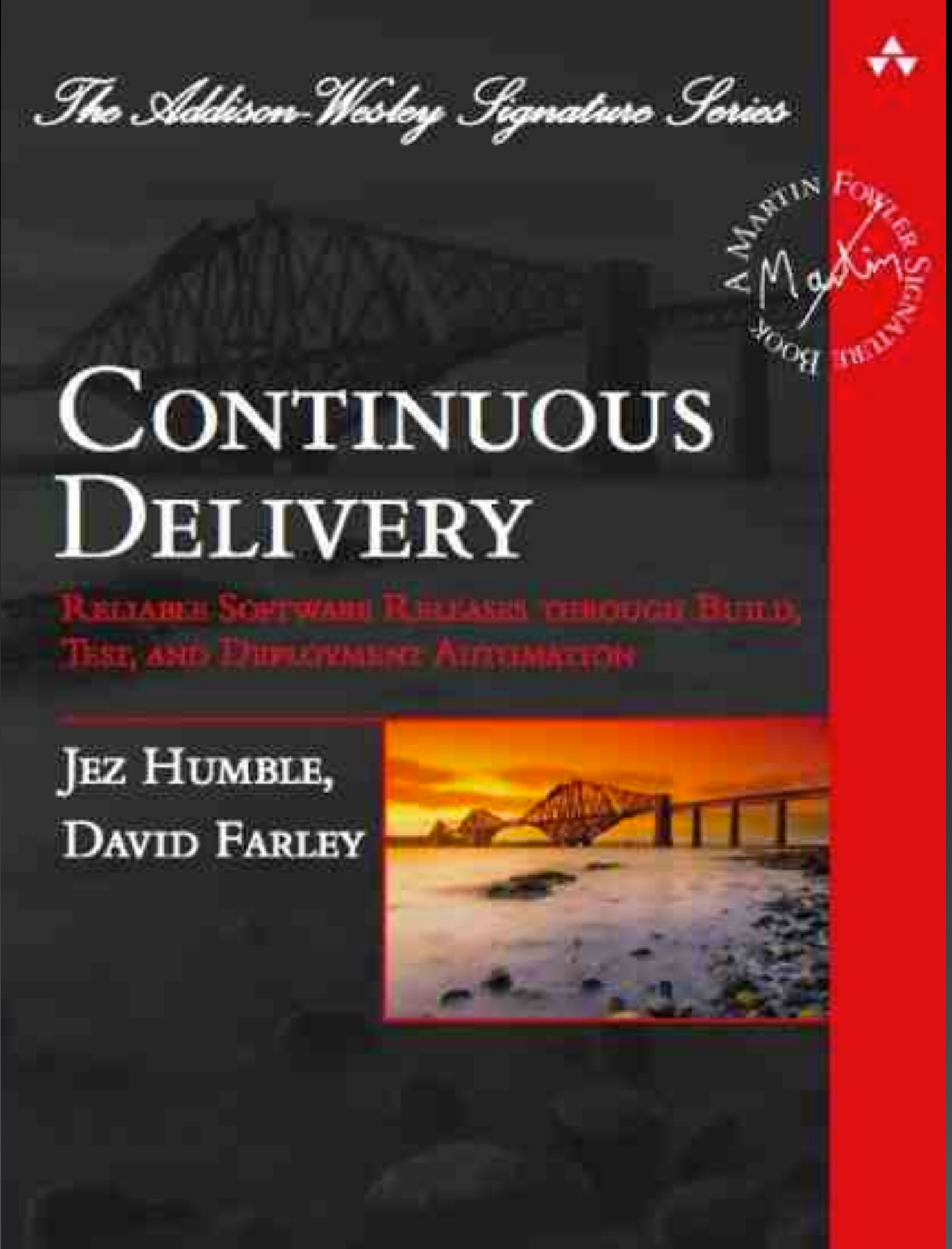
The Addison-Wesley Signature Series

A Martin Fowler Signature Book

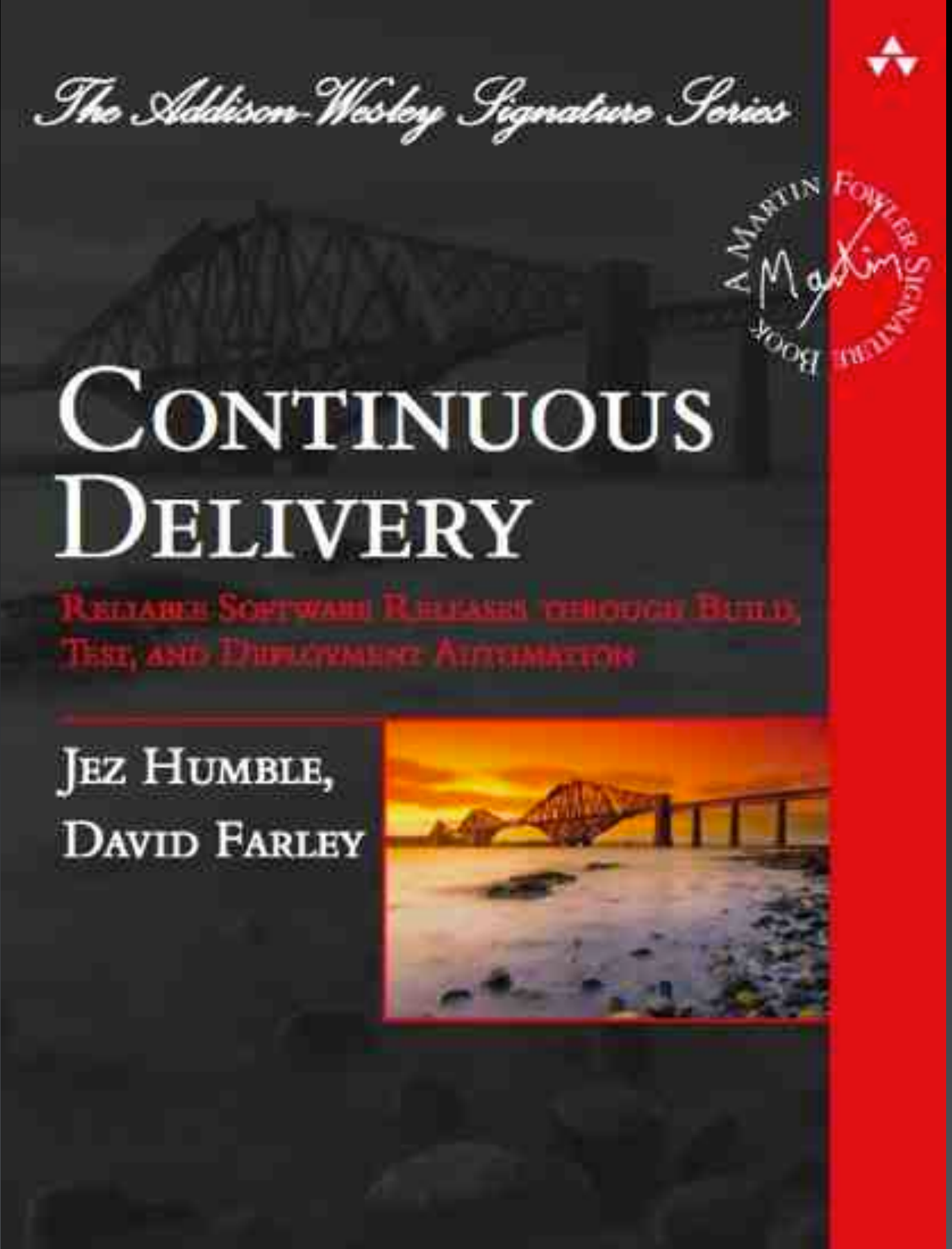
Continuous Delivery

Reliable Software Releases through Build, Test, and Deployment Automation

Jez Humble,
David Farley

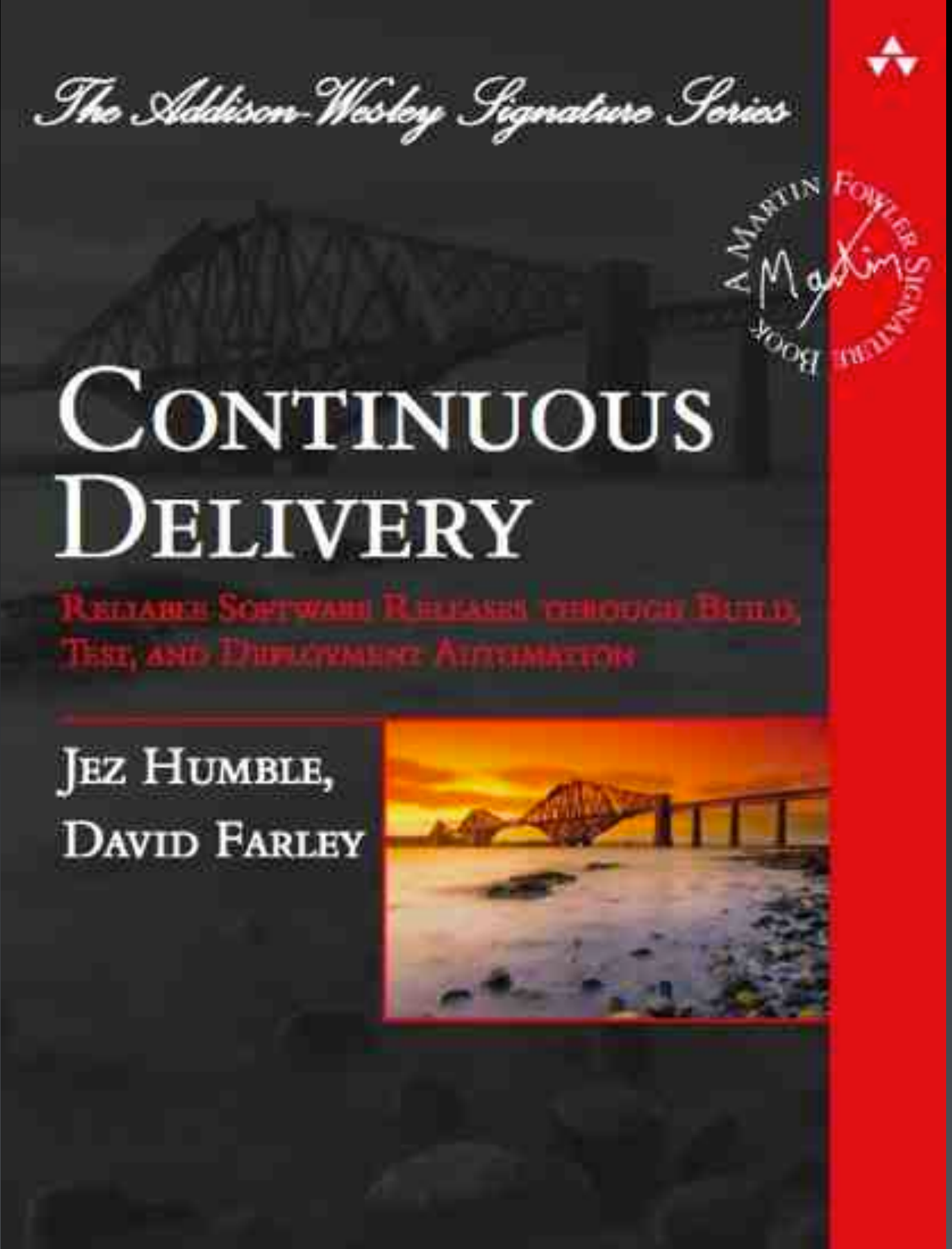


Software is deployable throughout its lifecycle



Software is deployable throughout its lifecycle

Priority is keeping the software deployable over new features



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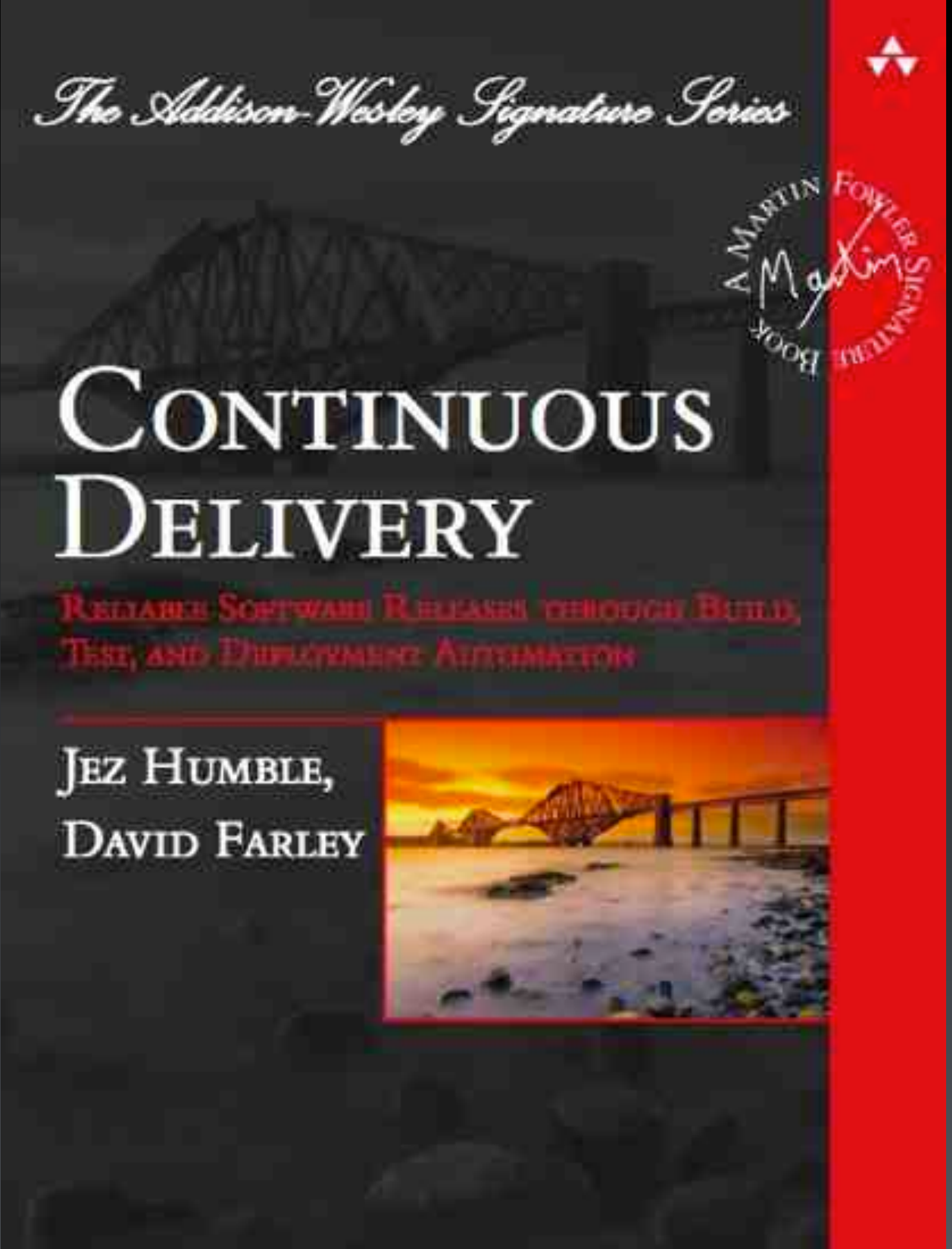
Anybody can get fast, automated feedback on the production readiness of their systems any time a change is made



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Push-button deployments of any version to any environment

Continuous Delivery

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Reduces the transaction cost of making change

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Faster ROI

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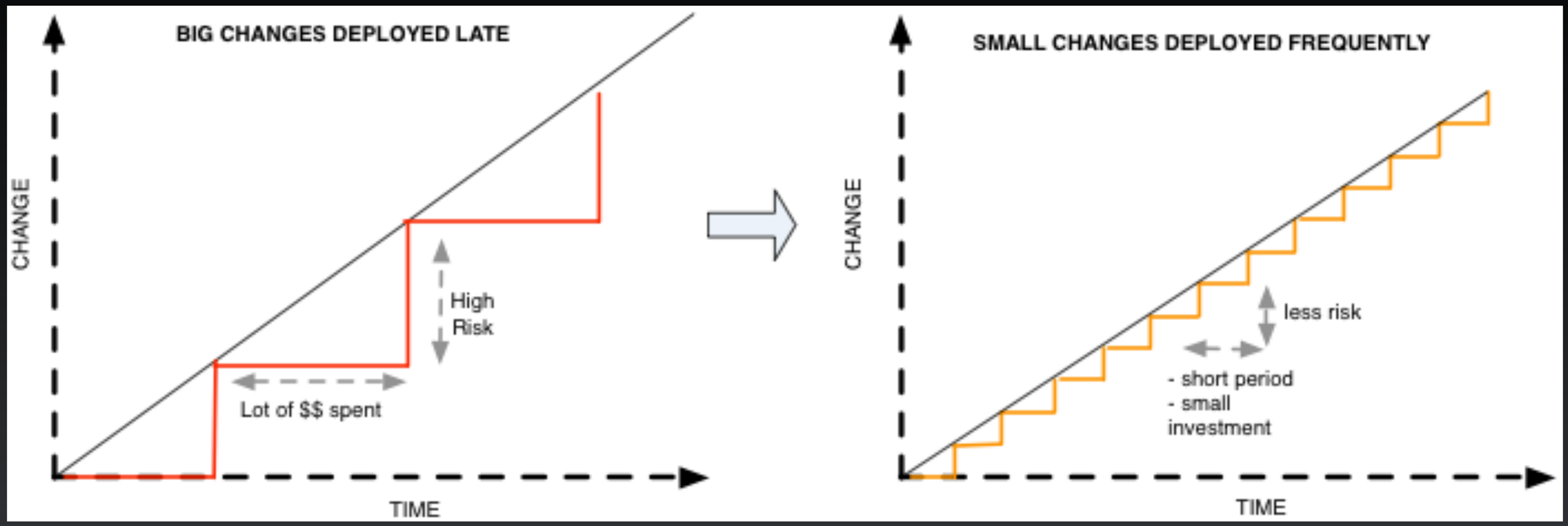
Reduces the transaction cost of making change

Faster ROI

Reduces Risk

Risk



Concept: John Allspaw

http://blog.vincentbrouillet.com/costs-and-risks-benefits-of-continuous-delivery-in-one-picture/

If it hurts
Do it more often

Controls

Controls

Change Management

Controls

Change Management

Separation of Duties

Controls

Change Management

Separation of Duties

Audit

An example workflow

New Requirement

Ticket is raised against UNIX Jira Issue tracker, e.g. New project, change to OS build.

Engineering

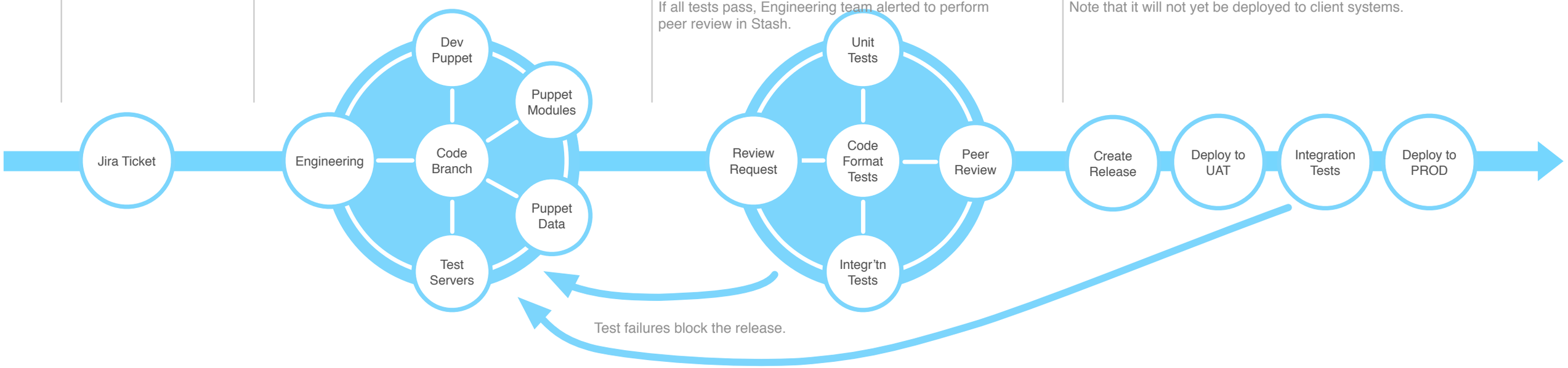
UNIX team member is assigned ticket.
Jira creates development sandbox using Stash integration.

Code Review

UNIX team member creates “Pull Request”, indicating change is ready to be reviewed.
Bamboo automates code quality review, unit and integration testing.
If all tests pass, Engineering team alerted to perform peer review in Stash.

Code Release

Once code is merged into Stash’s Release Branch, a UNIX team member may create a release containing one or more changes.
Bamboo automates deployment of the release to UAT, further automated testing, then release to Production.
Note that it will not yet be deployed to client systems.



Initiate Deployment

Release is selected by UNIX team member.

Impact Analysis

Change is run across the environment in read-only mode.
Servers that would be changed report back changes.
UNIX Change Manager assesses impact and assigns risk.

Scheduling & Change Management

Each impacted server role enters separate change management workflow
Maintenance windows and change risk feed into scheduling.

Deployment

Completed approvals trigger deployment during change window.

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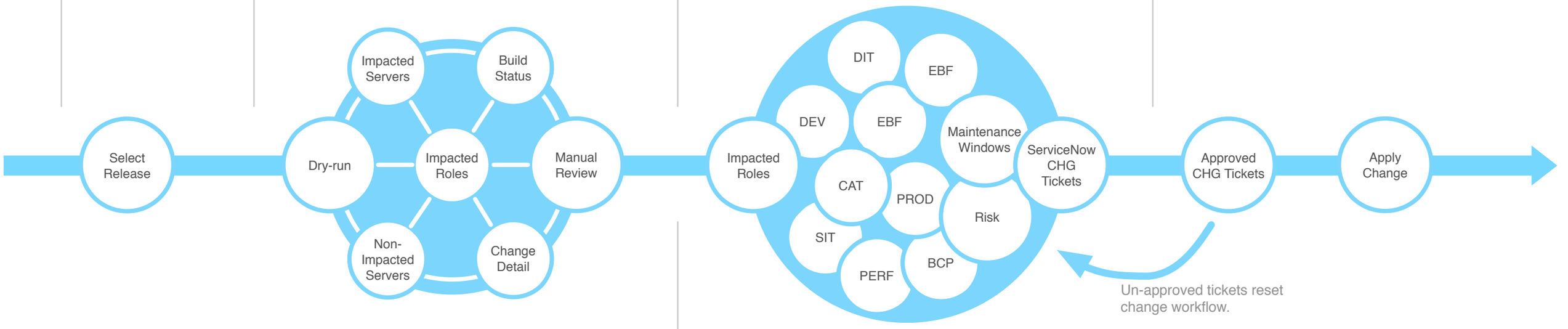

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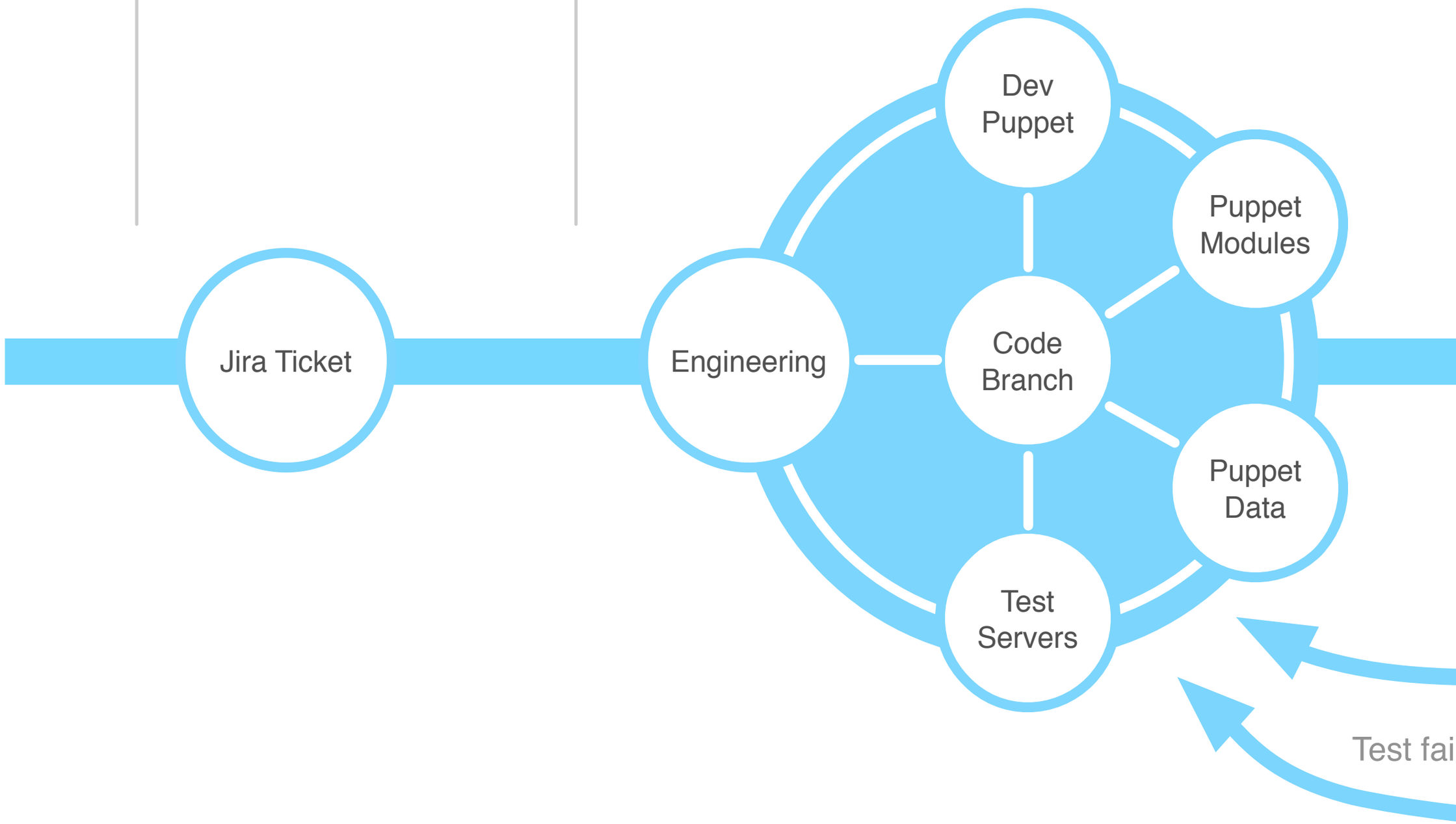

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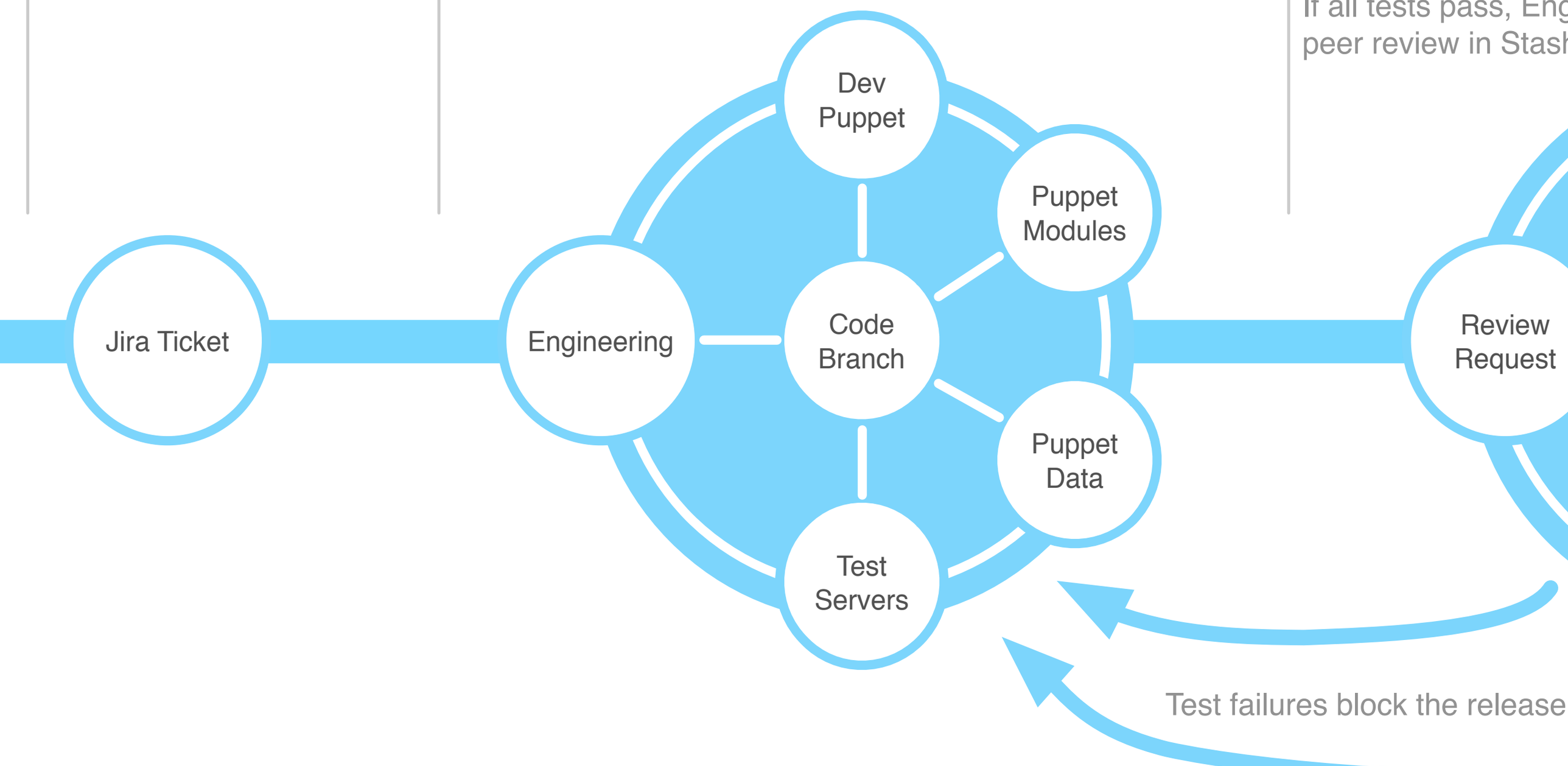

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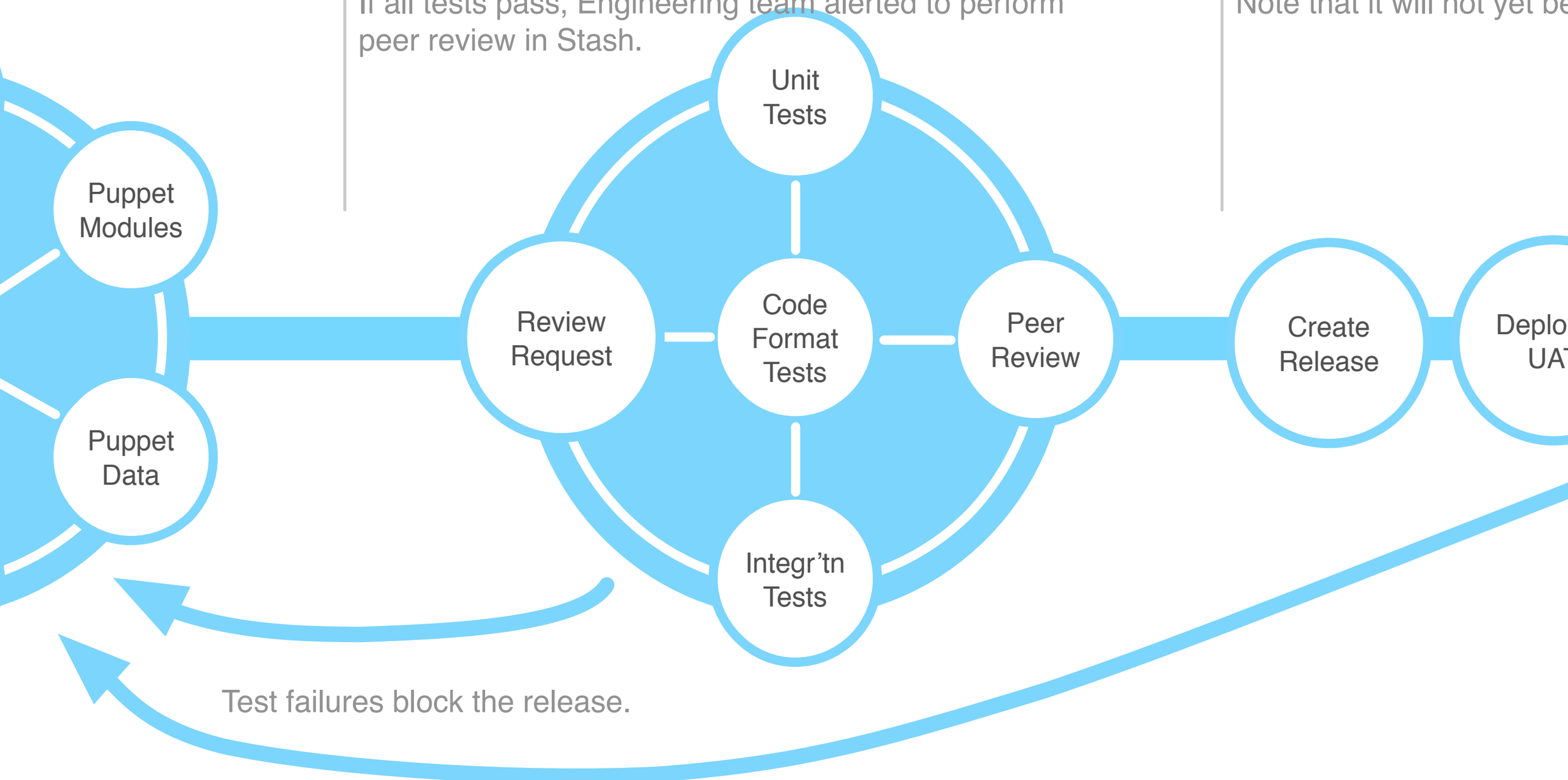

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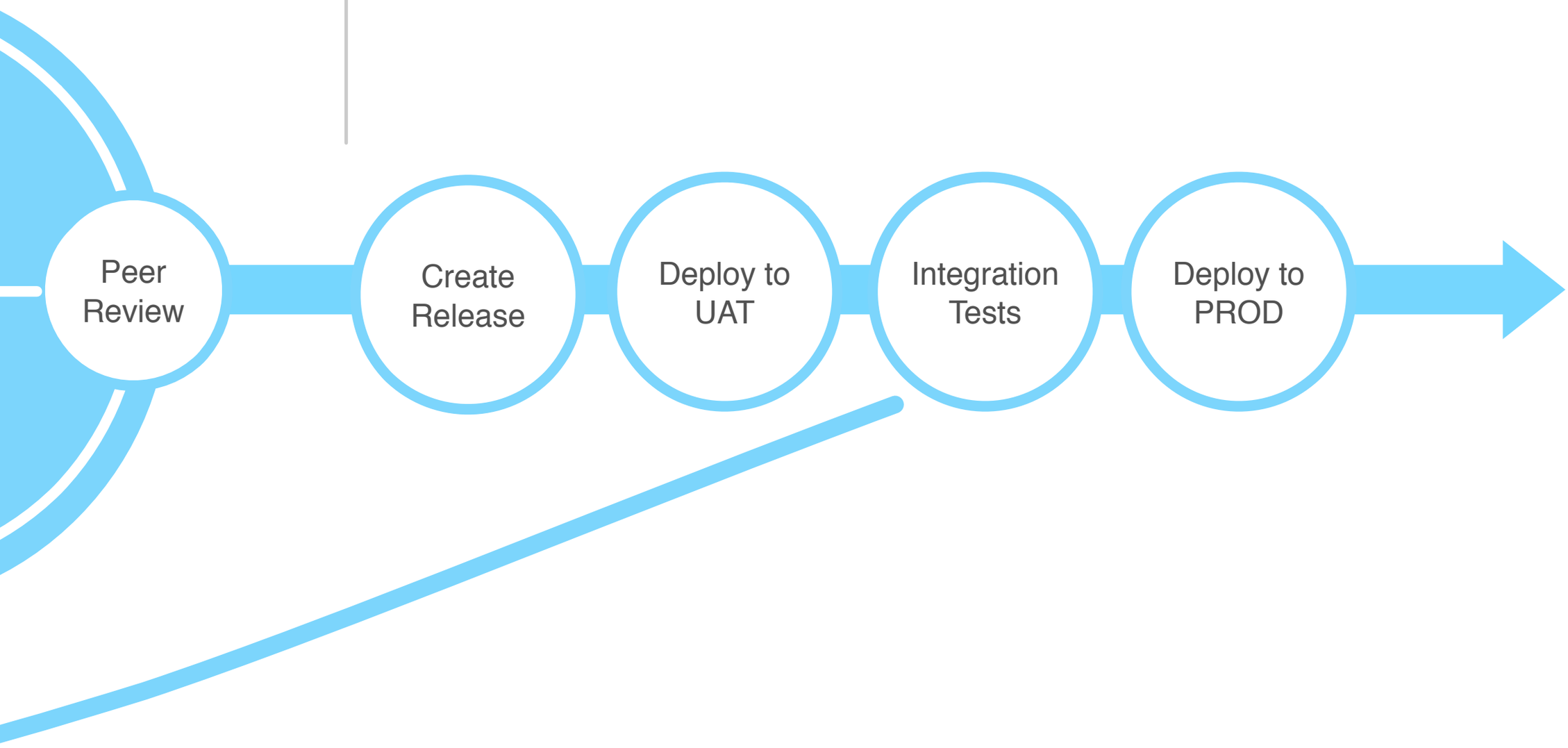

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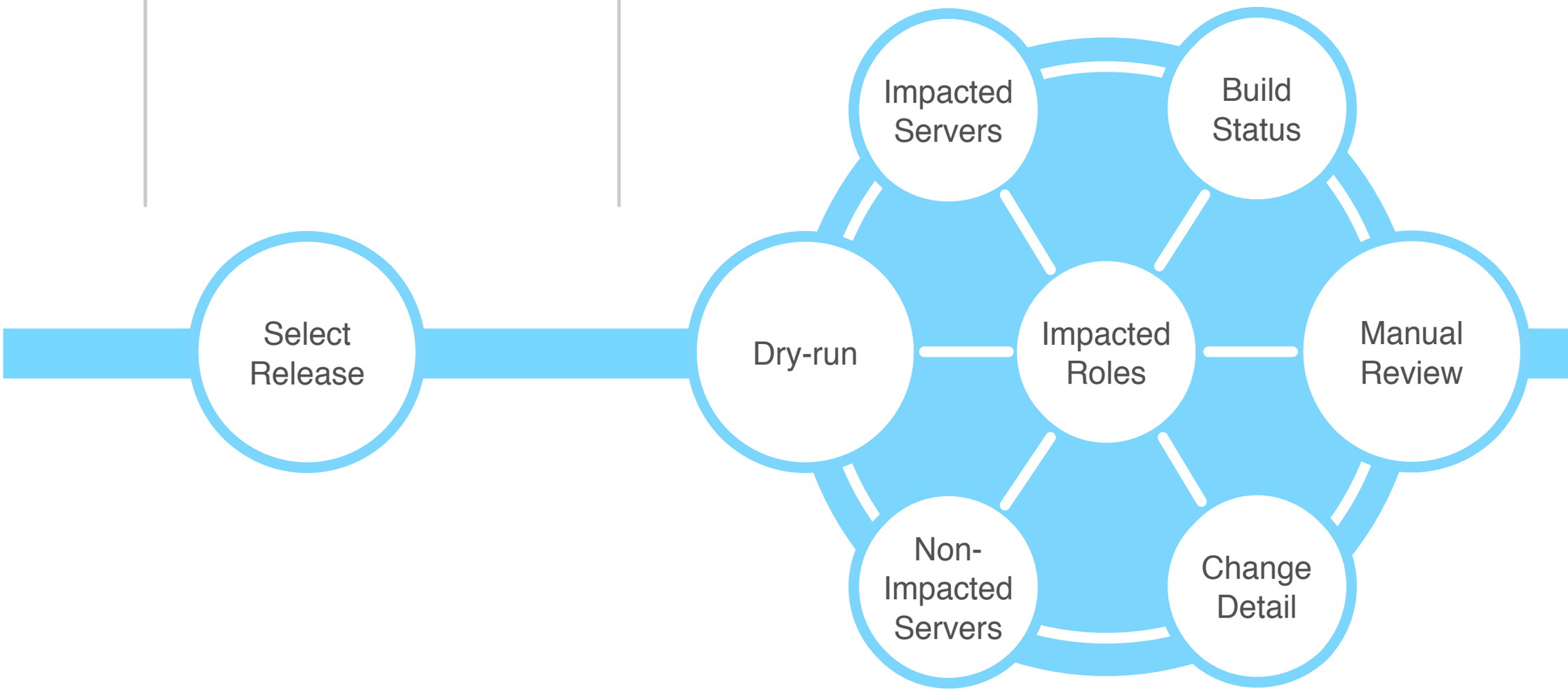

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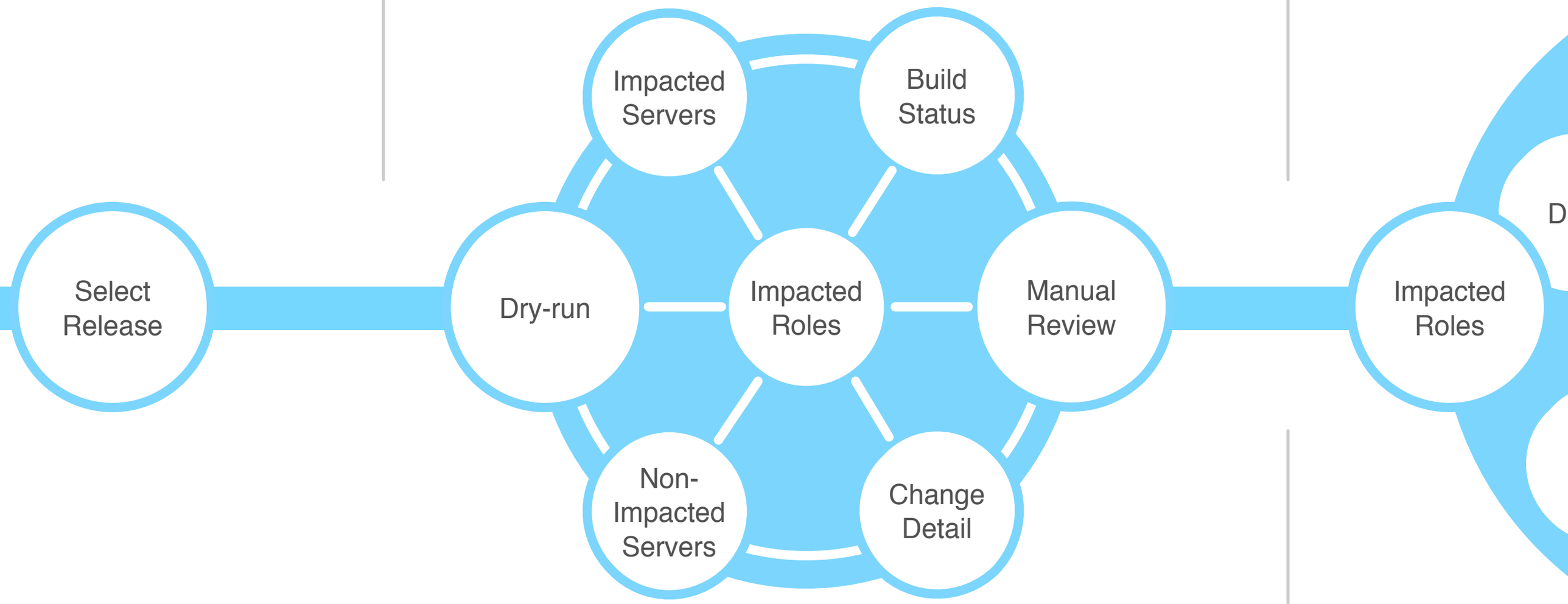

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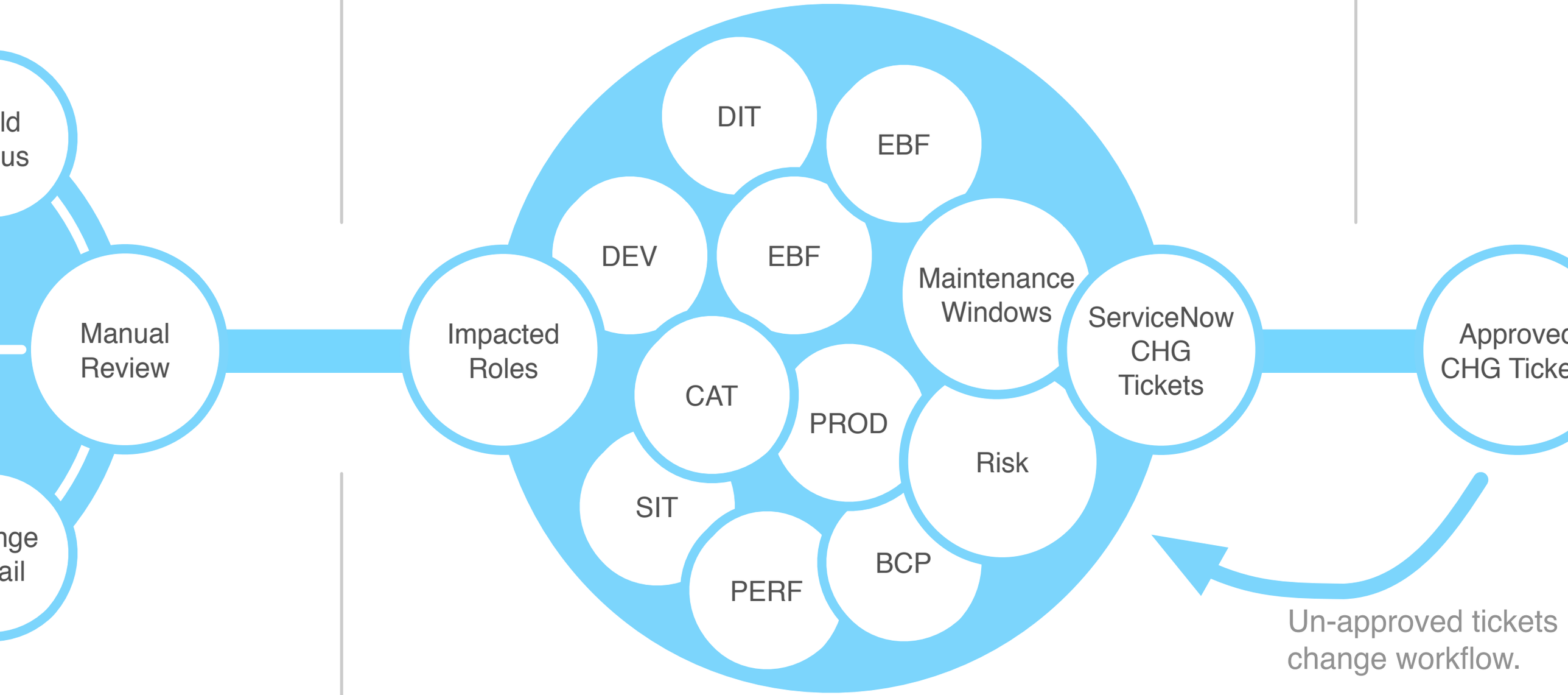

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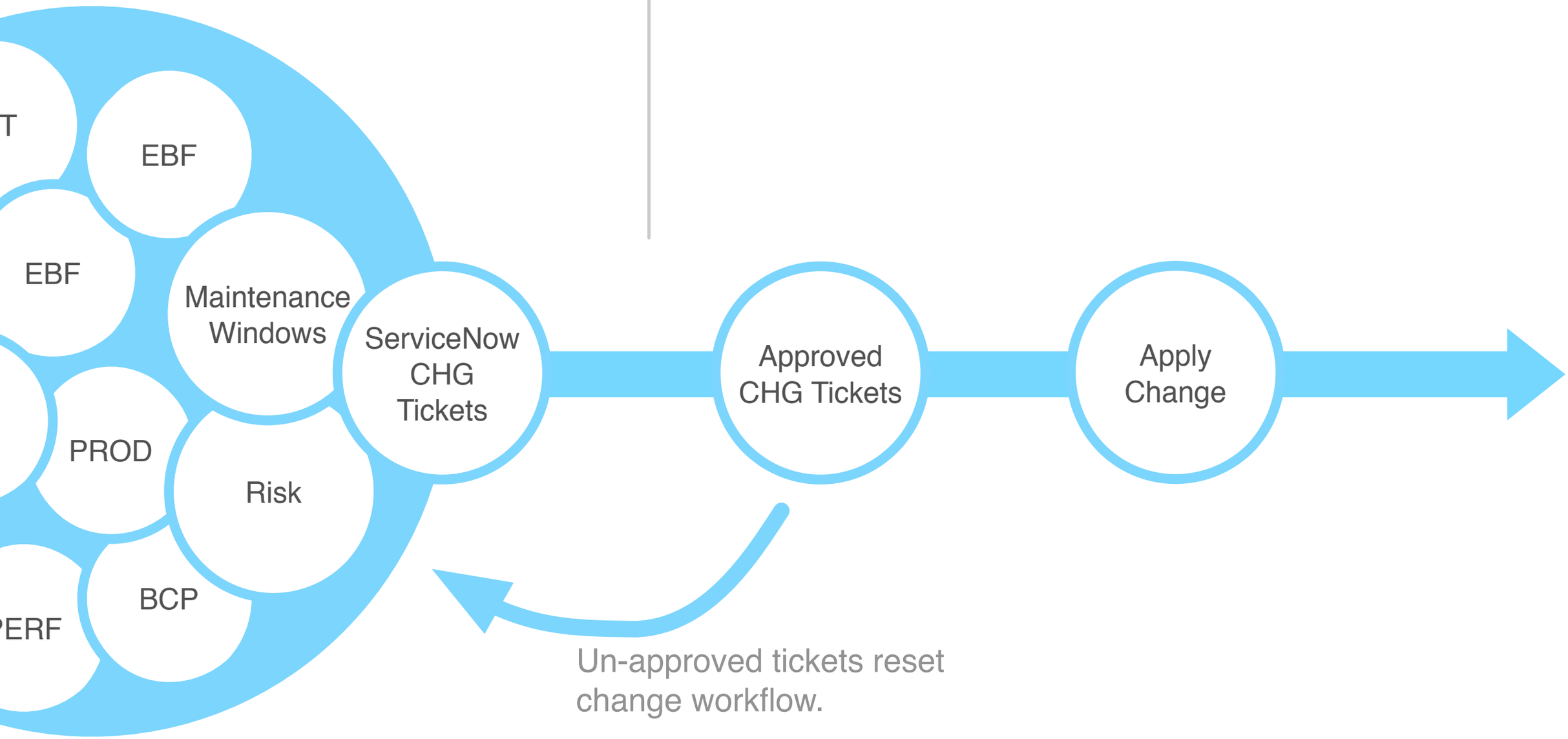

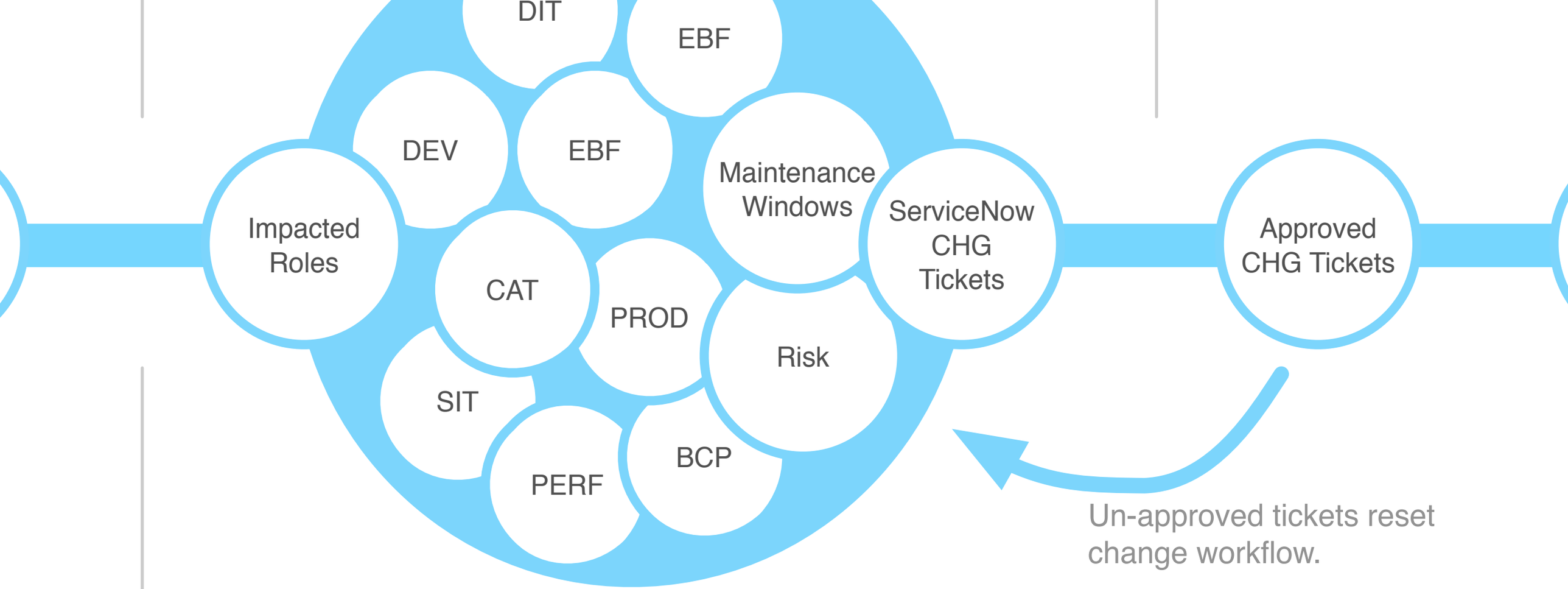

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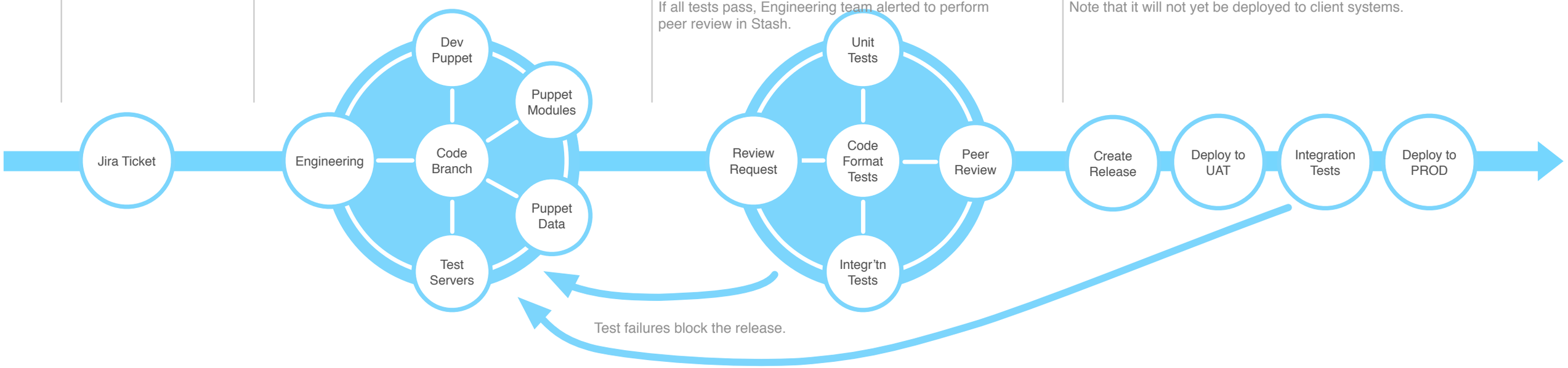

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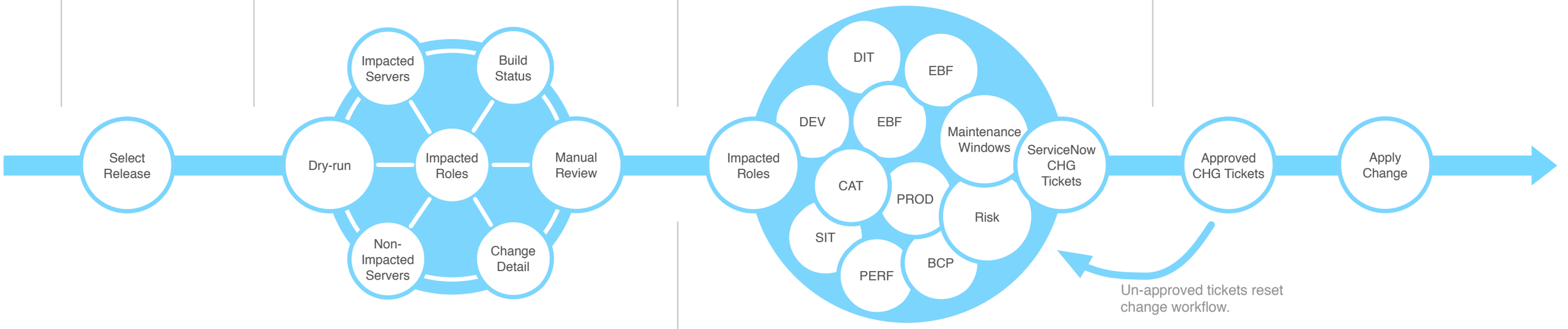

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Ben Walding
@benwolding

Follow

Nagios is red.
Jenkins is blue.
Whoever wrote the test suite, I will find you, and I will
kill you.

9:02 AM - 15 Feb 2014

278 RETWEETS **154** FAVORITES

Chrome File Edit View History Bookmarks Window Help Thu 17:48 99% Simon Croome

Gonzo | Apache CouchDB - Futon | Build Dashboard - Atlas

localhost:3000

Gonzo / Releases /

Releases: 7 releases available

1.0.0	-
1.1.0	-
1.2.0	10
1.2.1	1
1.2.2	1
development	-
production	-

All Releases >

Nodes: 12 nodes available

DEV	4
PROD	5
UAT	3

All Nodes >

Releases: 7 available

Number of nodes deployed for each release:

Release	DEV	UAT	PROD
1.0.0	-	-	-
1.1.0	-	-	-
1.2.0	4	3	3
1.2.1	-	-	1
1.2.2	-	-	1
development	-	-	-
production	-	-	-

Technology Stack

Puppet - Dynamic environments
MCollective - Comms
CouchDB - Reports
PouchDB - Replication to browser
AngularJS - Web interface
Rails - API (to be replaced)
Resque / Redis - Job scheduling

github.com/croomes/gonzo

Questions?