

ANDREAS PRINS

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# **TESTING: THE CONTINUOUS CHANGING PRACTICE**

## **HAVE YOU COVERED ALL LEVELS OF CONTINUOUS TESTING?**

# TESTING THE CONTINUOUS CHANGING PRACTICE

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## Part 1

Big picture  
testing  
influencers

Responsive enterprise

Lean (IT)  
the external factor

IT Performance

## Part 2

Testing  
transformation

The Impact of  
simplification

The continuous  
Shift Left

The opportunities of  
stretch right

Endless automation

# A JOURNEY IN SOFTWARE DELIVERY

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- 6,5 of test consultancy



- Lean Consultant
- Agile/DevOps Coach
- Team manager 4 DevOps teams



- VP Product Strategy



- Director of Engineering

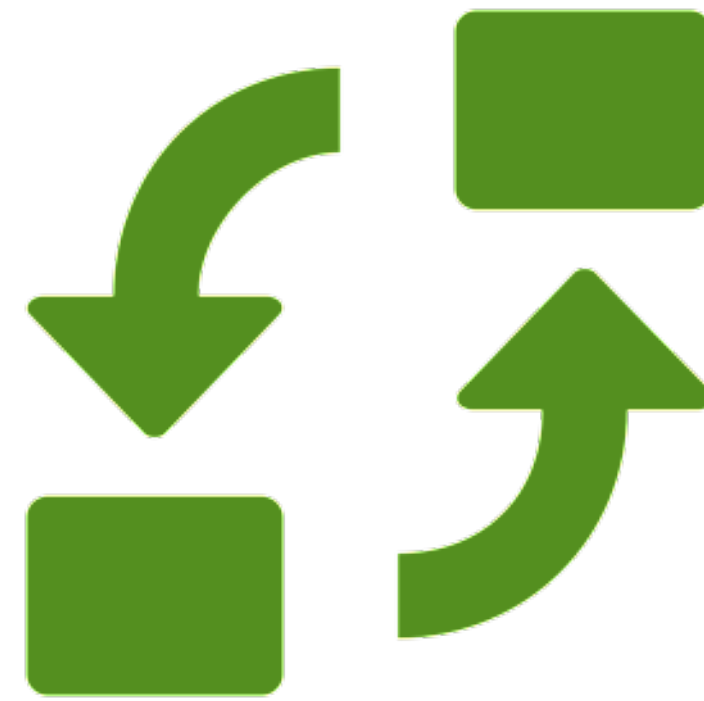


# TESTING WILL GO THROUGH CHANGE DEPENDING ON STATE OF THE ORGANISATIONAL TRANSFORMATION

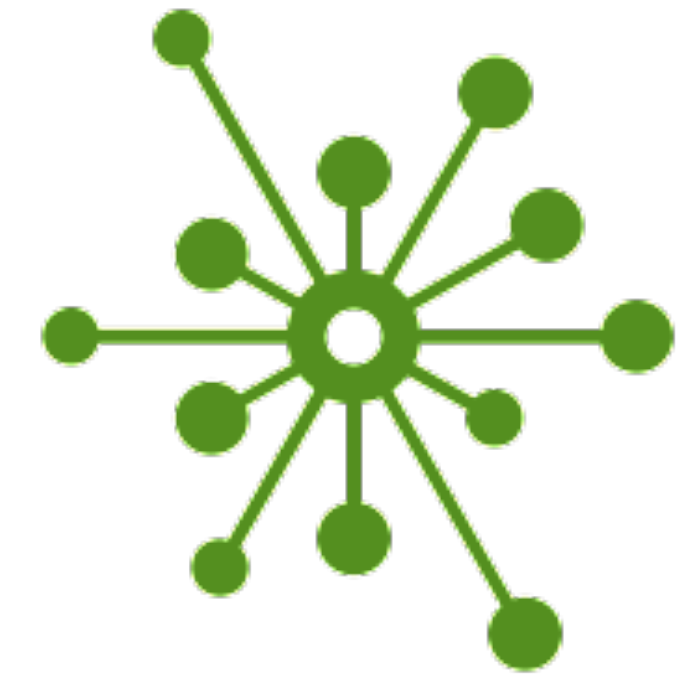
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Customer  
Collaboration



Organizational  
Simplicity



Data Driven  
Experiments

# THE TESTING DISCIPLINE IS IMPACTED BY THE LEAN PRACTICES AND STRIVE FOR PERFECTION

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Lean products  
and processes



IT landscape  
Simplicity



Value Stream  
Management



# AUTOMATION IS KEY TO ACCELERATE DELIVERY AND INCREASE OPERATIONAL PERFORMANCE

## AUTOMATION AND INTEGRATION BY PERFORMANCE PROFILE

	Low	Medium	High	Elite
Automated build	64%	81%	91%	92%
Automated unit tests	57%	66%	84%	87%
Automated acceptance tests	28%	38%	48%	58%
Automated performance tests	18%	23%	18%	28%
Automated security tests	15%	28%	25%	31%
Automated provisioning and deployment to testing environments	39%	54%	68%	72%
Automated deployment to production	17%	38%	60%	69%
Integration with chatbots / Slack	29%	33%	24%	69%
Integration with production monitoring and observability tools	13%	23%	41%	57%
None of the above	9%	14%	5%	4%

With Automated build as well established practice, teams can move on.

Automated testing has a big difference per practice and a large distribution from Low to Elite performers.

The Quality Mindset needs to utilise understanding of the systems in production



PART 2

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# TESTING TRANSFORMATION

# SIMPLIFICATION AND THE IMPACT ON TESTING

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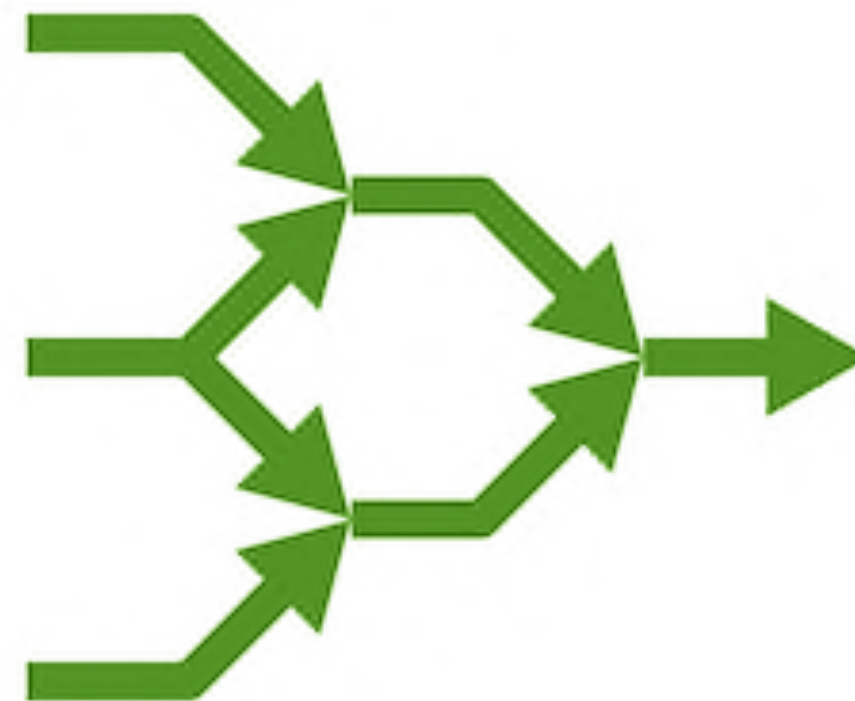
Lean products  
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IT landscape  
Simplicity



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Simplification and  
impact on testing

1

Limitation of  
combinations

2

Less complexity in  
end-2-end testing

3

Flow of activities



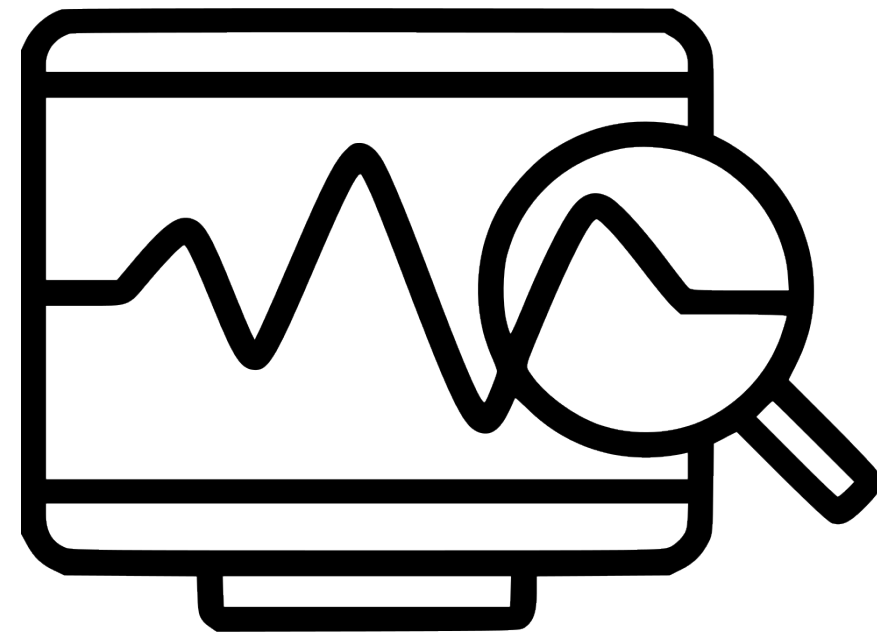
# THE ACCELERATION OF THE SHIFT-LEFT & THE MISSING LINK

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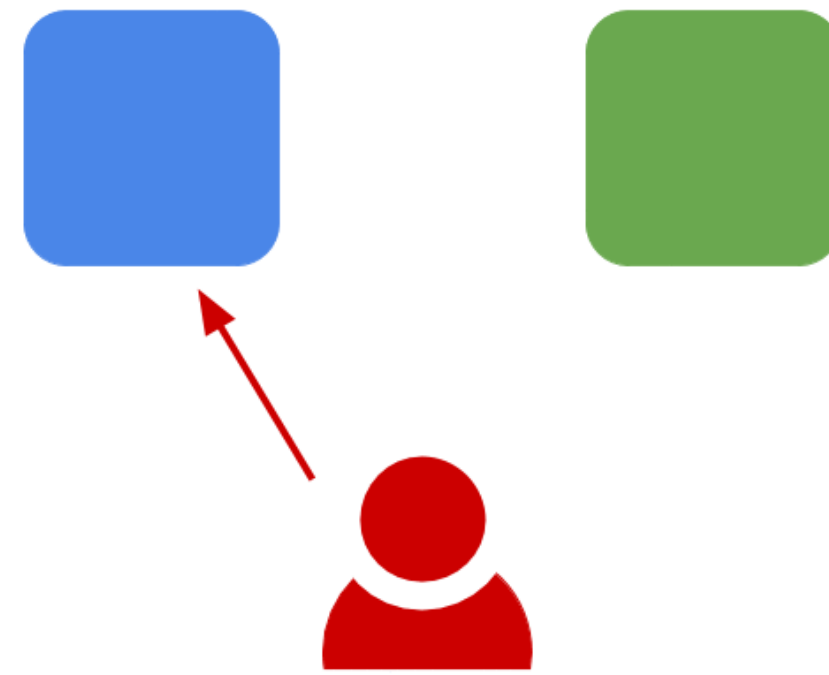
	Highly Automated?	Collaborative?	Meaningful KPIs?	Feedback Loop?
Quality	✓	✓	✓	✓
Security	✓	✓	✓	✓
Monitoring	✓	✓	✓	✓
Cost	?	?	?	?

# OPPORTUNITIES OF THE STRETCH LEFT

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Monitoring



Modern  
Deployment  
Patterns



Observability



# ENDLESS AUTOMATION LEADS TO CONTINUOUS EXPLORATION

Cloud Native Landscape  
v20180425

See the interactive landscape at [l.cncf.io](https://l.cncf.io)

Grayed logos are not open source

**App Definition and Development**

- Database and Data Warehouse: Viteess, AmazonDB, IBM DB, CarbonData, Amazon EMR, Couchbase, etc.
- Streaming: Amazon Kinesis, Apache Kudu, etc.
- Source Code Management: Bitbucket, GitHub, GitLab, etc.
- Application Definition and Image Build: Apache Maven, Docker, etc.
- Continuous Integration / Continuous Delivery (CI/CD): Jenkins, Travis CI, etc.

**Orchestration & Management**

- Scheduling & Orchestration: Kubernetes, Mesos, Nomad, etc.
- Coordination & Service Discovery: CoreDNS, Consul, etc.
- Service Management: NGINX, Traefik, etc.

**Runtime**

- Cloud-Native Storage: Ceph, CSI, etc.
- Container Runtime: Docker, rkt, etc.
- Cloud-Native Network: CNF, etc.

**Provisioning**

- Host Management / Tooling: Ansible, Chef, etc.
- Infrastructure Automation: Terraform, etc.
- Container Registries: Docker Hub, etc.
- Secure Images: Clair, etc.
- Key Management: HashiCorp Vault, etc.

**Cloud**

- Public: AWS, Azure, Google Cloud, etc.
- Private: OpenStack, etc.

**Platforms**

- Certified Kubernetes - Distribution: Red Hat OpenShift, etc.
- Certified Kubernetes - Hosted: AWS EKS, etc.
- Certified Kubernetes - Installer: etc.
- Non-Certified Kubernetes: etc.
- PaaS/Container Service: etc.

**Observability & Analysis**

- Monitoring: Prometheus, etc.
- Logging: ELK Stack, etc.
- Tracing: Jaeger, etc.

**Serverless**

- Serverless: AWS Lambda, etc.

**Special**

- Kubernetes Certified Service Provider: etc.
- Kubernetes Training Partner: etc.

**Cloud Native Landscape**  
This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

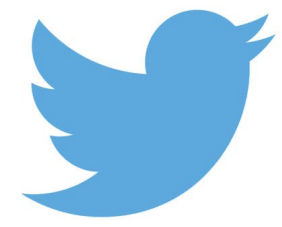
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**CLOUD NATIVE Landscape**  
**CLOUD NATIVE COMPUTING FOUNDATION**  
Redpoint Amplify



# THANK YOU

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@andreasprins



/andreasprins



[ajprins@gmail.com](mailto:ajprins@gmail.com)

