

Tschüss Altlasten 🖐️

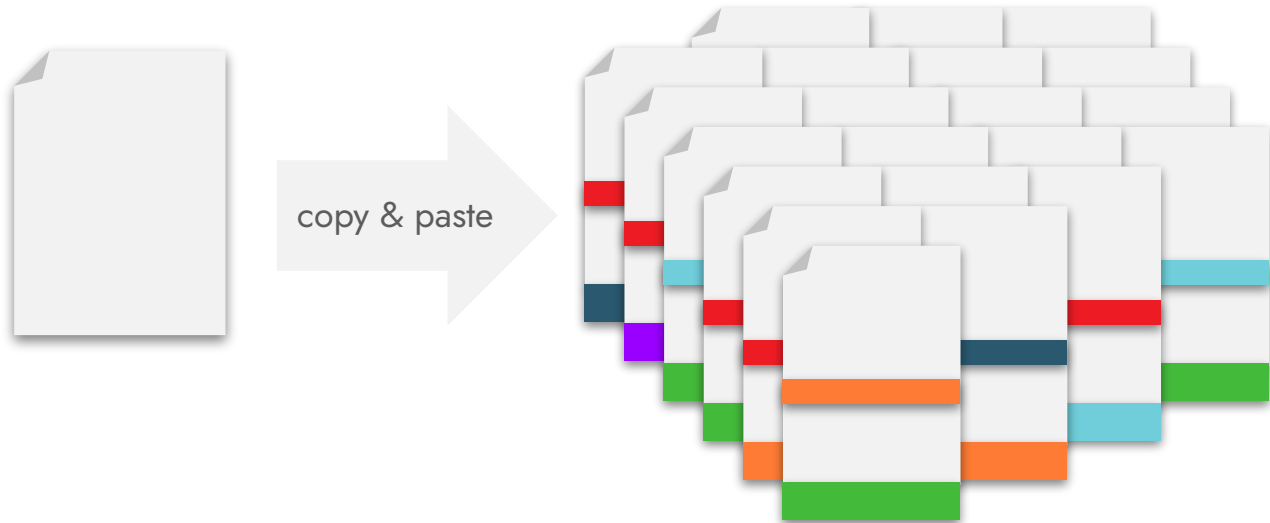
So schrumpfen wir mit wenig Aufwand unsere Testsuite auf das Wesentliche!



Ramona Kühn
Stefan Brand

Testuites wachsen

- Historisch gewachsen
- Mehr KI-generierte Tests
- Viel hilft viel?! Nicht immer



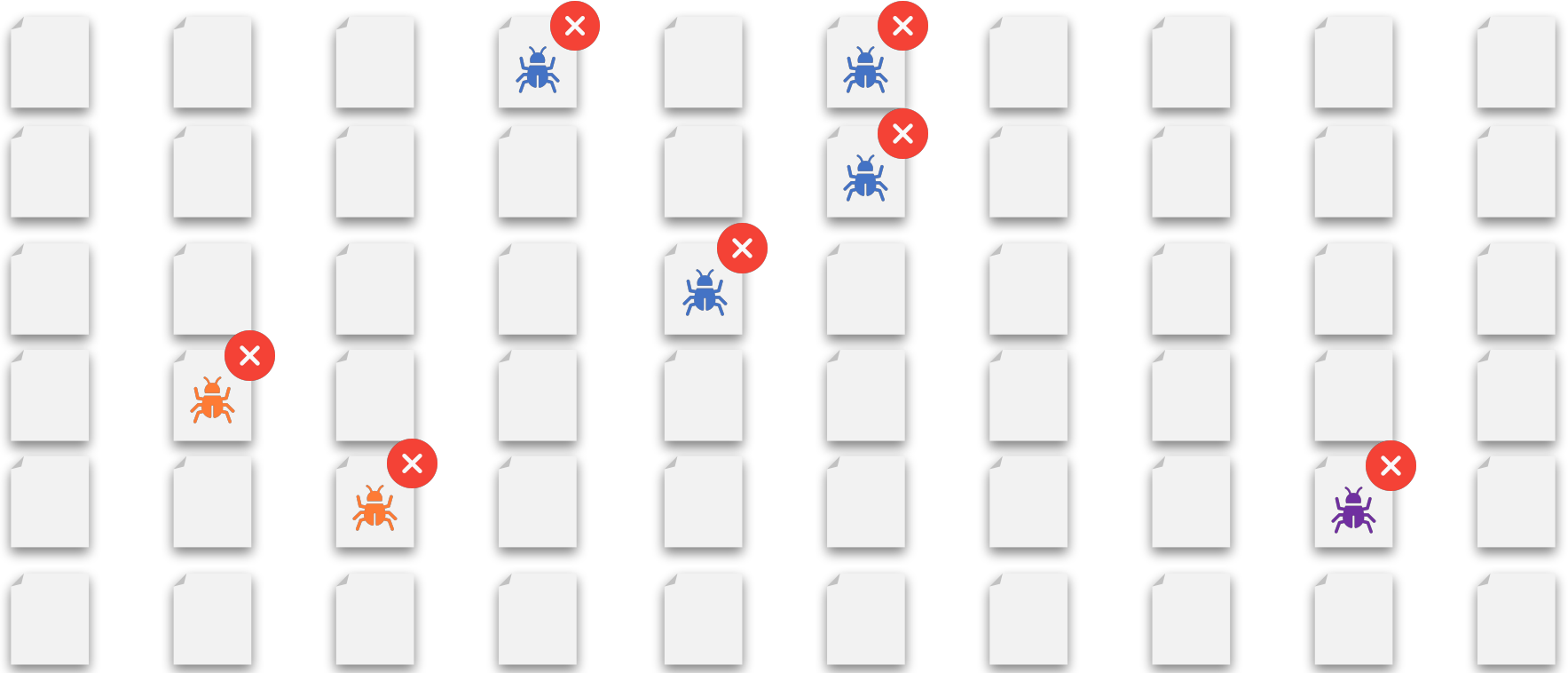
Schwierig zu handhaben

- Viele Tests brauchen lange
→ langsames Feedback
- Migration zu anderen Testplattformen wird erschwert
 - Nicht jeder Test kann einzeln angepasst werden
 - Abdeckung der Tests soll gleich bleiben!

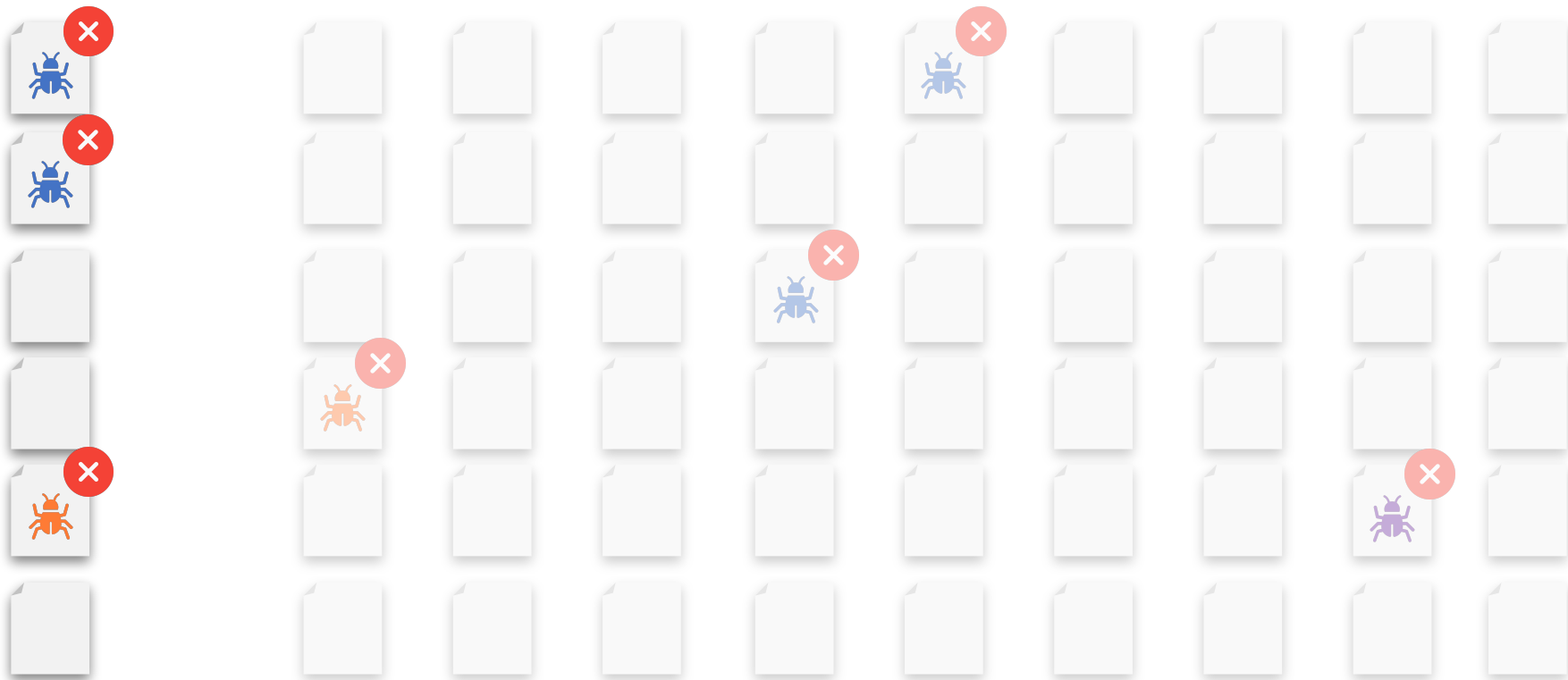


manuell,
automatisiert, E2E, ...

Testselektion

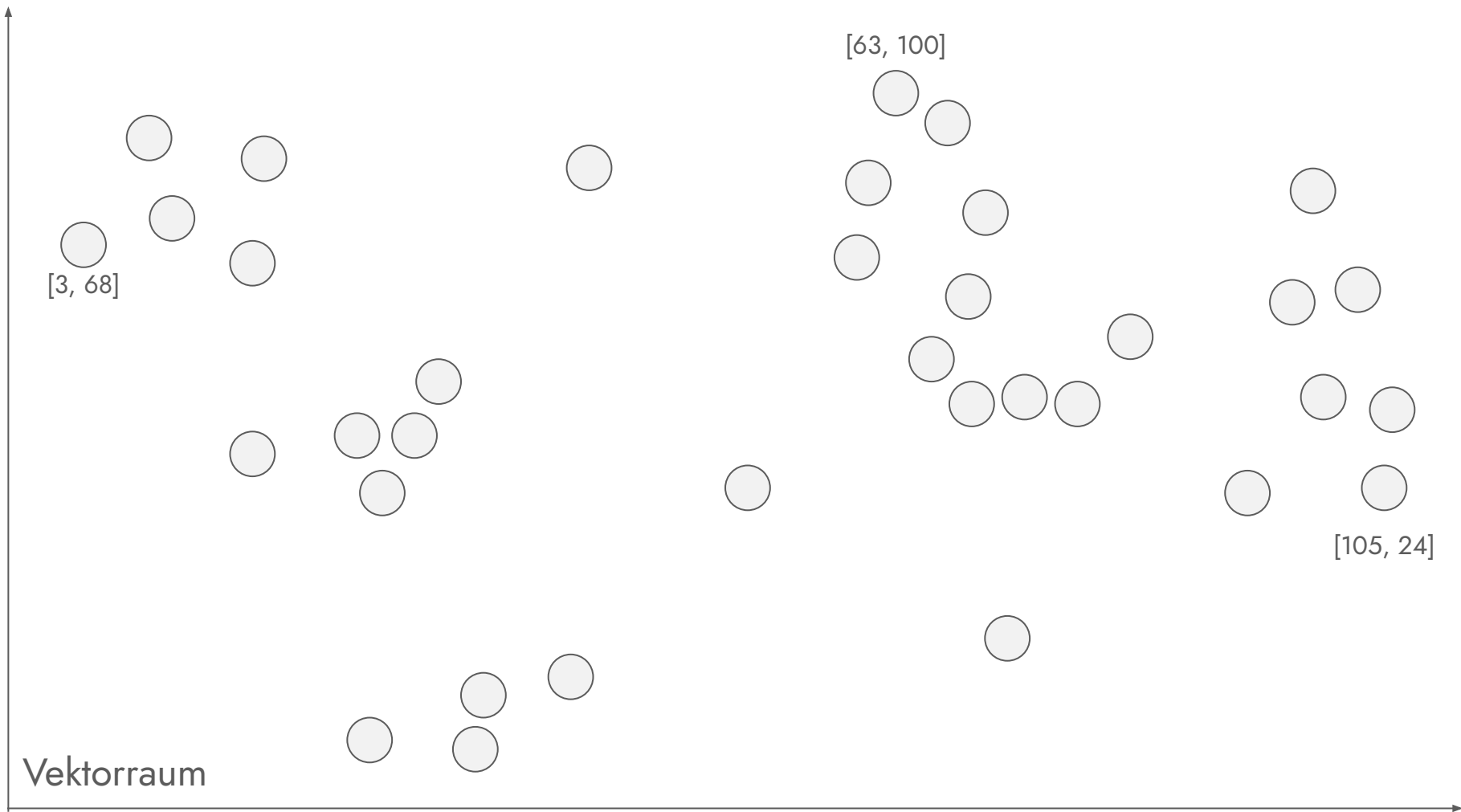


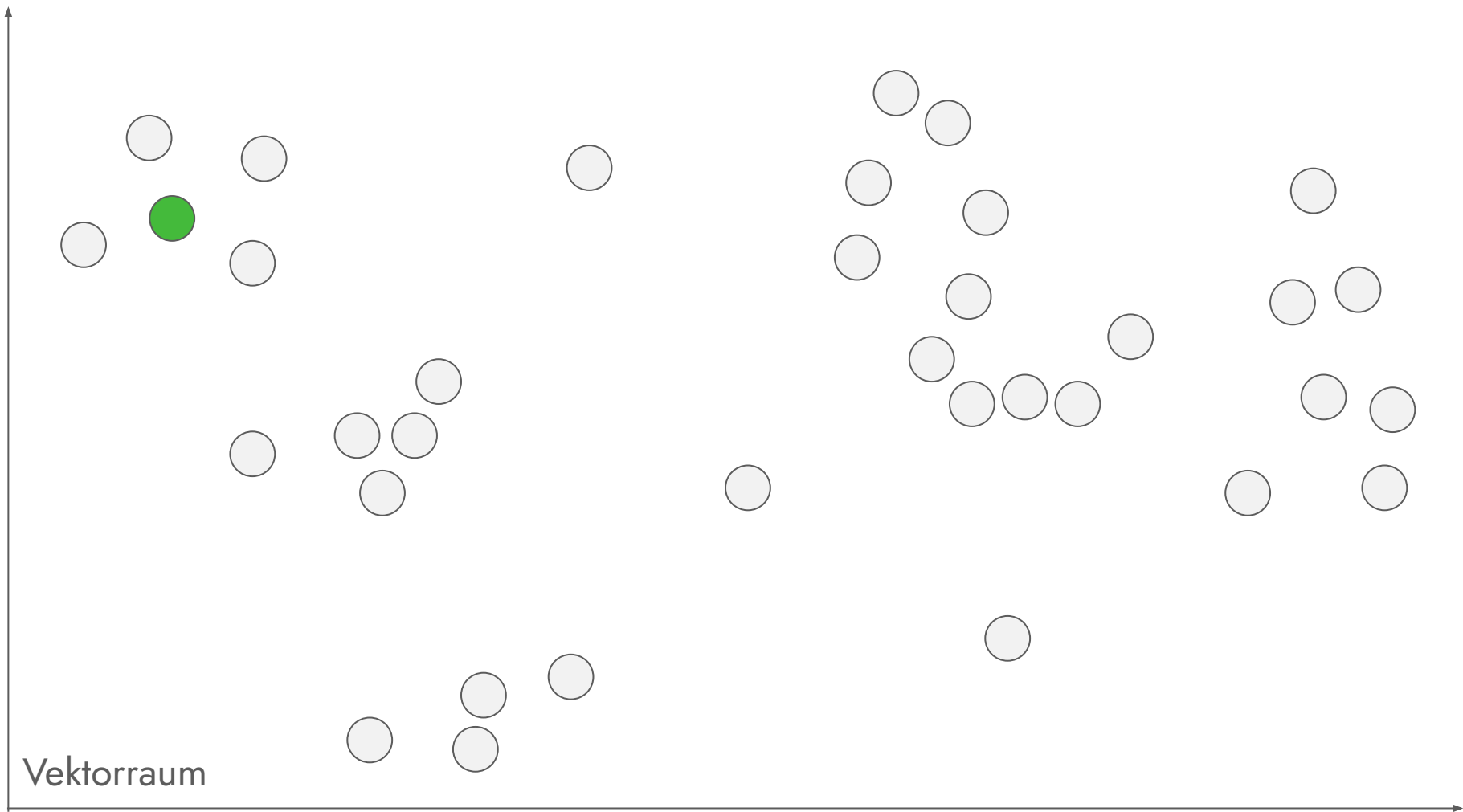
Testselektion

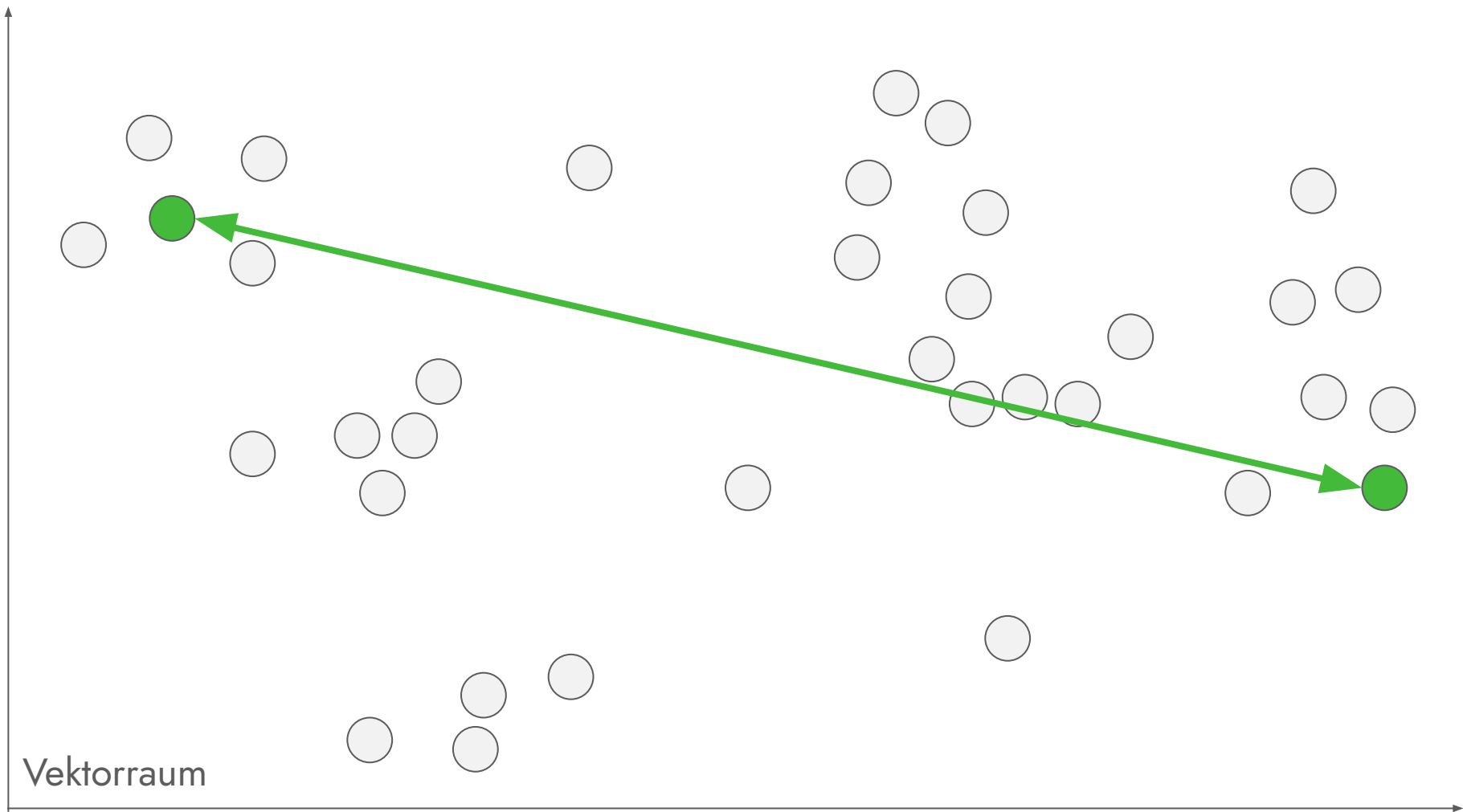


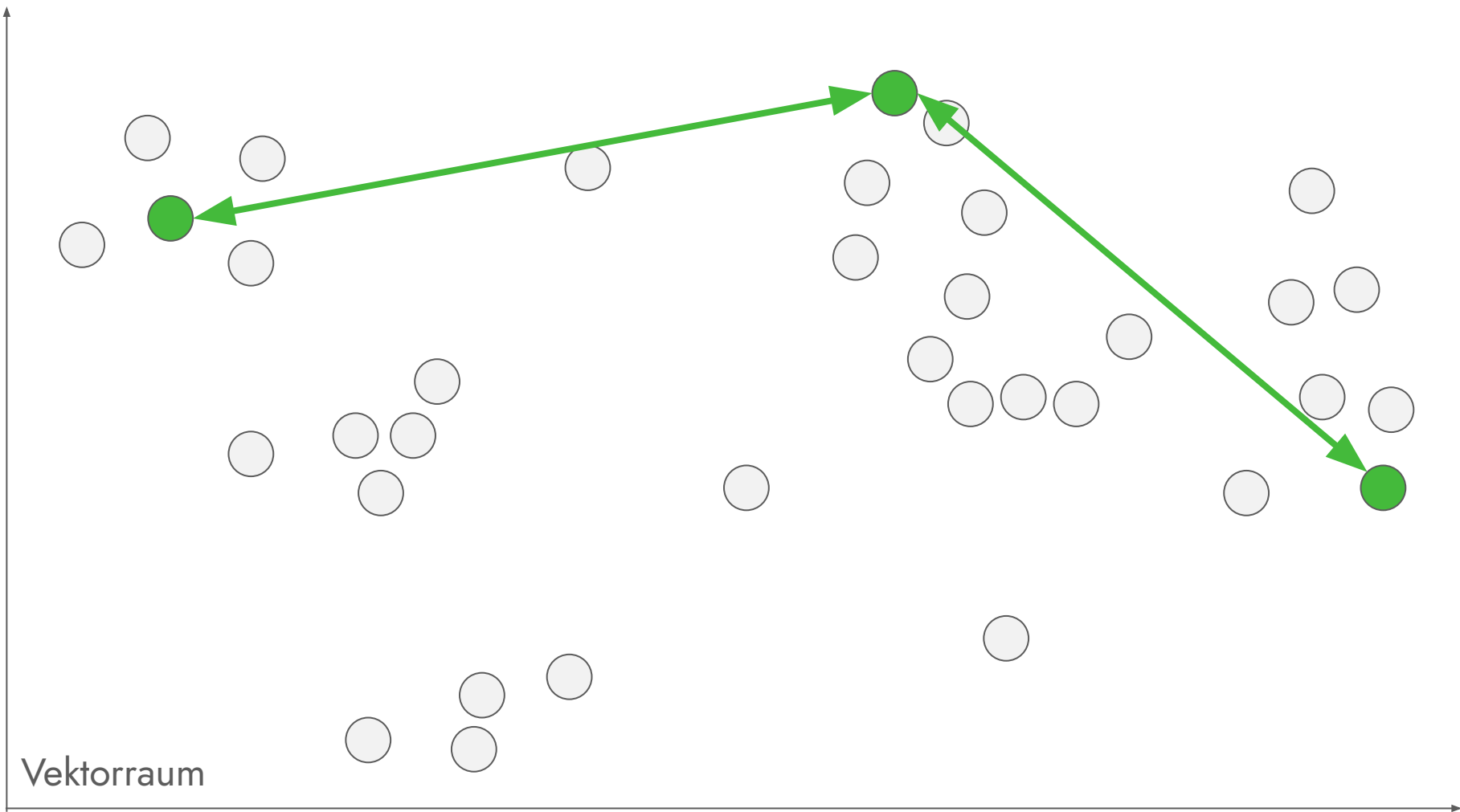
Testselektion **ohne Test Coverage**

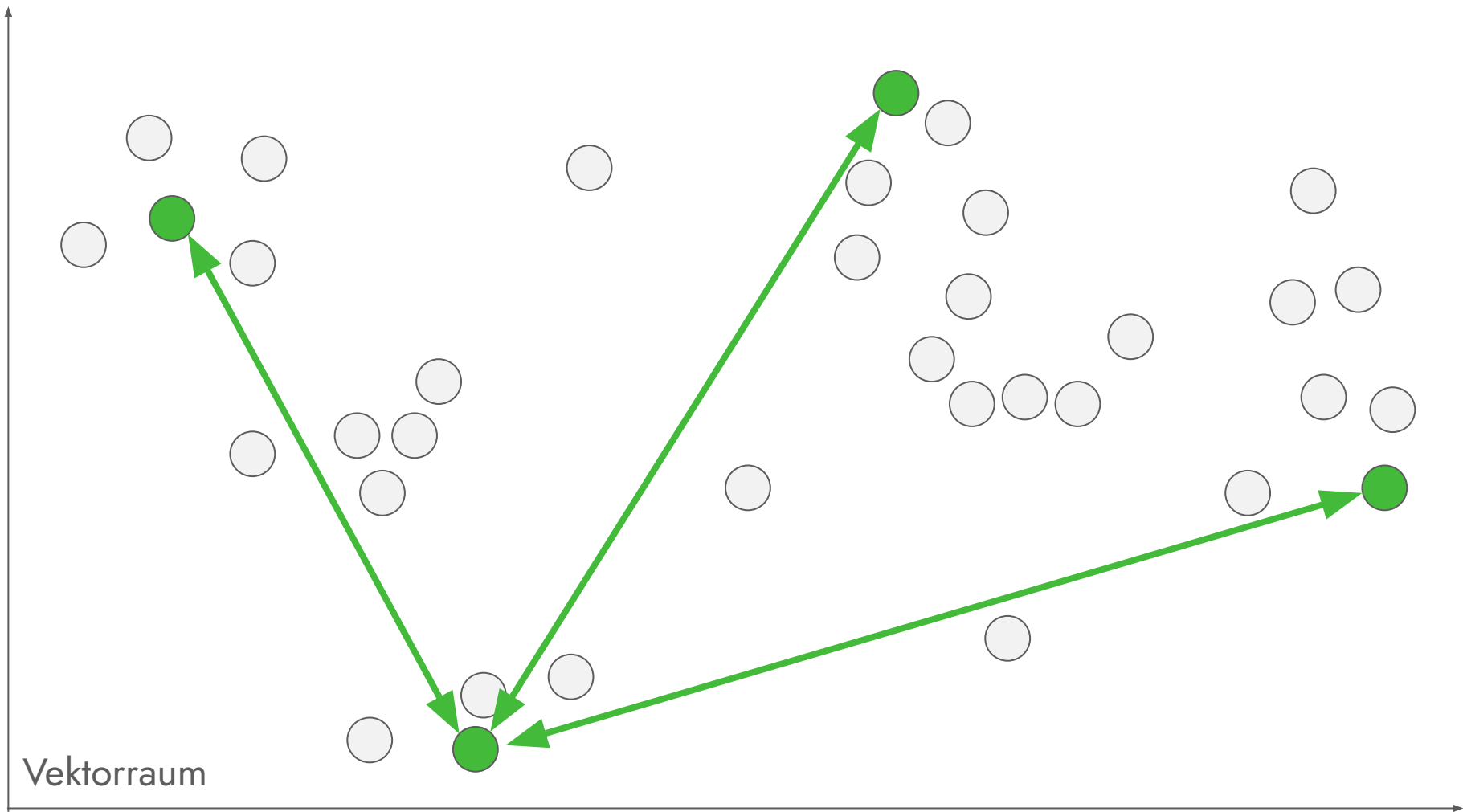
Idee: **Möglichst unterschiedliche** Tests auswählen

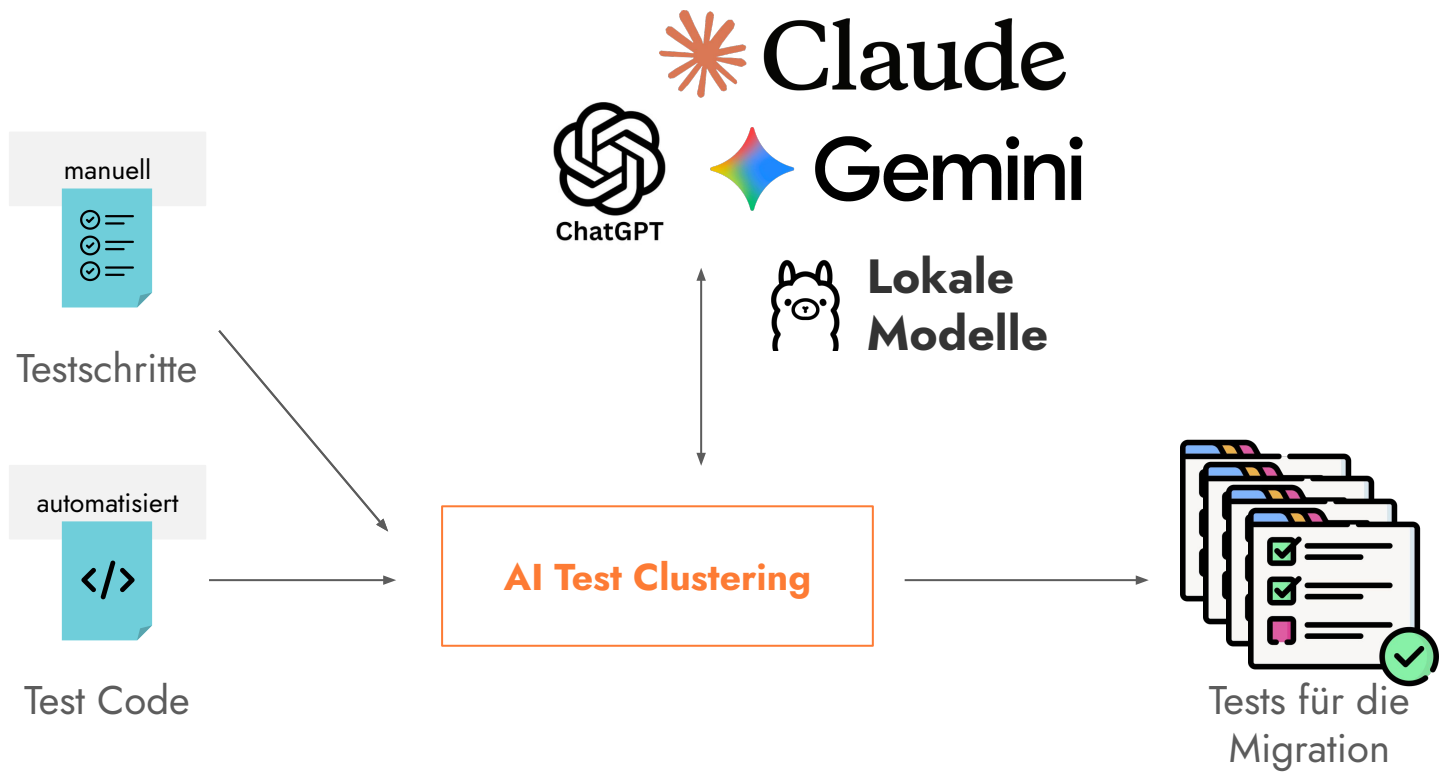




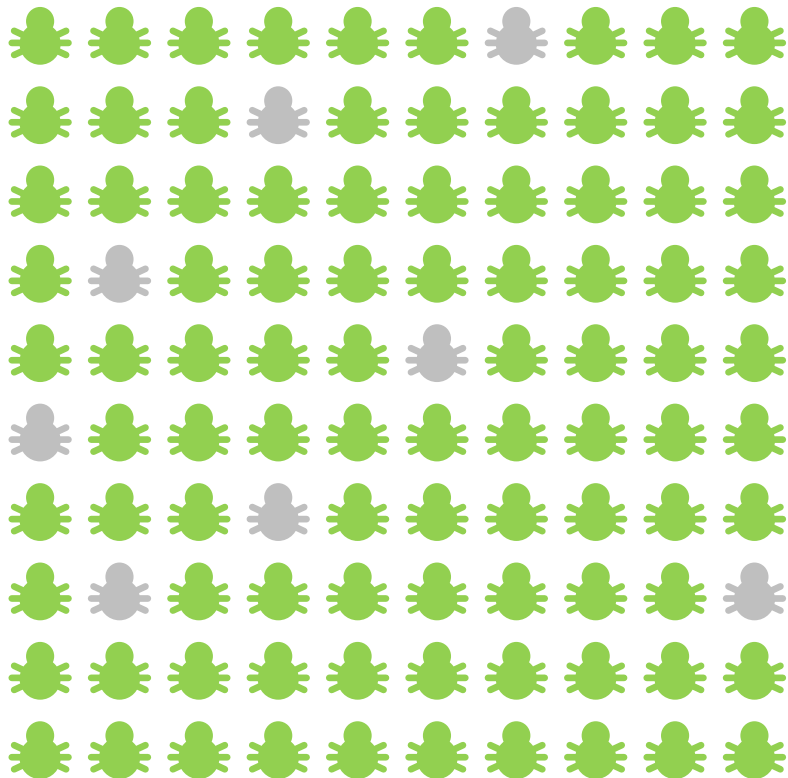








AI Test Clustering



Demo

AI Test Clustering



www.teamscale.com

Inhaltsbasierte Ansätze

- + Deutlich weniger Aufwand für Setup und Betrieb
- + Beinahe identische Performance zu Coverage-Ansätzen
- Können keine Laufzeitinformationen (z.B. Varianten, datengetriebene Tests) in die Selektion einbeziehen

Danke fürs Zuhören

Hier gibt's die Folien und Updates



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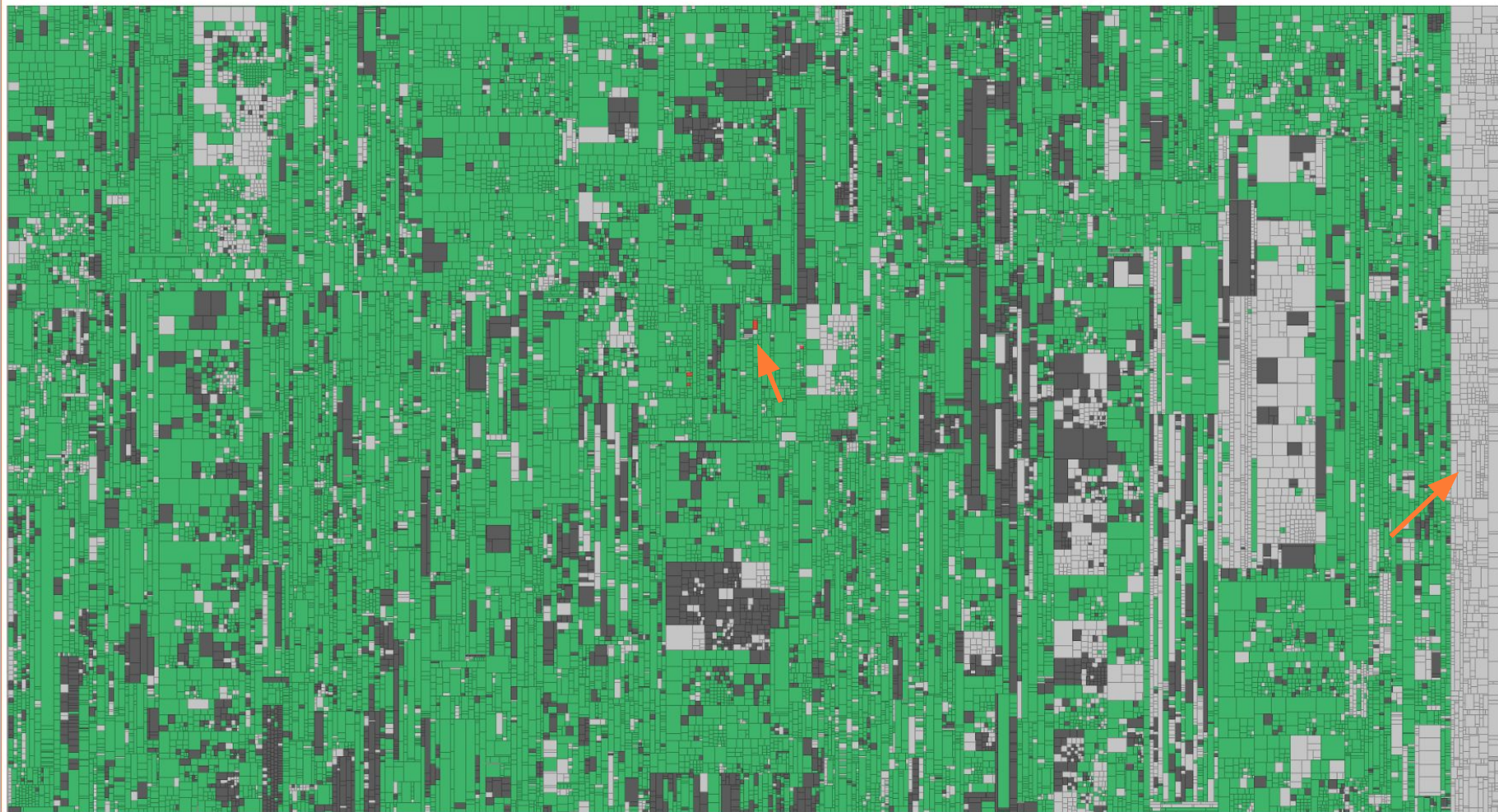
Stefan Brand

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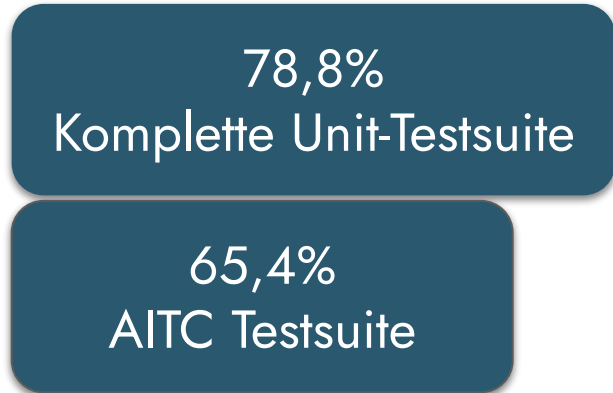
Screenshots aus der Demo

Code Coverage (Total vs. AITC) for `cassandra`

■ Complete Unit-Testsuite: 13.5% | ■ AITC 40% of Unit Tests: 0.0% | ■ Overlap: 65.3% of methods



Ergebnis



→ Relative Coverage

83%
der bestehenden
Methoden-Coverage bleibt
erhalten

Ablauf: AI Provider setzen

Global Settings

Server Settings

Git

Authentication

Email Server

SAP System Connections

GitHub Integration

AWS Integration

Automatic Backup

AI Model Providers

Server Limits

Usage Data Reporting

Monitoring

Instance Comparison

AI Model Routing

Chat Model Routing ⓘ

Without routing rules for chat models, corresponding features will be disabled.
Create first rule to enable them.

+ Add routing rule

Embedding Model Routing ⓘ

Always route to Ollama ollama::qwen3-embedding:8b

+ Add routing rule

AI Pricing

Model Prices ⓘ

Without pricing rules, the cost of all AI interactions is recorded as 0.
Create a first rule to estimate costs.

+ Add pricing rule

+ Add standard provider

Anthropic Provider

+ Add

Gemini Provider

+ Add

OpenAI and Compatible Providers

+ Add

Ollama Provider

+ Add

ollama

 Claude

 Gemini

 Lokale
Modelle

 ChatGPT

Ablauf: Tests vor-selektieren (optional)

Teamscale

Start

Dashboard

Activity

Findings

Metrics

Requirements Tracing

Software Composition

Test Gaps

Test Suggestions

Change-Based

Change-Independent

Quality Control

Shadow Mode (change) ⁺² cassandra / cassandra-5.0

Latest Test Suggestions

Search...

DA

Change-Independent Test Suggestions

Suggest Tests →

Test Query

Only Unit Tests ▾

☐ Use only tests with testwise coverage

11046 tests found

Name	Code Location	Partition	Duration	Result
org/apache/cassandra/Cass... /testFailureThenErrorProducesOneStatusChild	te... /CassandraXMLJUnitResultFormatterTest.java	junit_no_coverage	3ms	PASSED
org/apache/cassandra/CassandraXMLJU... /testPassedTestHasNoStatusChild	te... /CassandraXMLJUnitResultFormatterTest.java	junit_no_coverage	1ms	PASSED
org/apache/cassandra/CassandraXMLJUnitR... /testSingleFailureIsUnchanged	te... /CassandraXMLJUnitResultFormatterTest.java	junit_no_coverage	10ms	PASSED
org/apache/cassandra/audit/AuditLogFilterTest/isFiltered_EmptyInputs	test/unit/org/apache/ca... /AuditLogFilterTest.java	junit_no_coverage	0s	PASSED
org/apache/cassandra/audit/AuditLogFilterTest/isFiltered_ExcludeSetOnly	test/unit/org/apache/ca... /AuditLogFilterTest.java	junit_no_coverage	0s	PASSED
org/apache/cassandra/audit/AuditL.../isFiltered_FilteredInput_EmptyExclude	test/unit/org/apache/ca... /AuditLogFilterTest.java	junit_no_coverage	132ms	PASSED

Ablauf: AITC starten

← Back

Beta

Content-Based Suggestions ?



Coverage-Based Suggestions ?

Overall Progress (2/3 finished)

Ranking Tests (313/7911 finished)

Abort

Ablauf: Liste ansehen und herunterladen

Beta Content-Based Suggestions ? 7911 Coverage-Based Suggestions ?

Number of tests (budget) 3939

25m 11s 352ms (max)

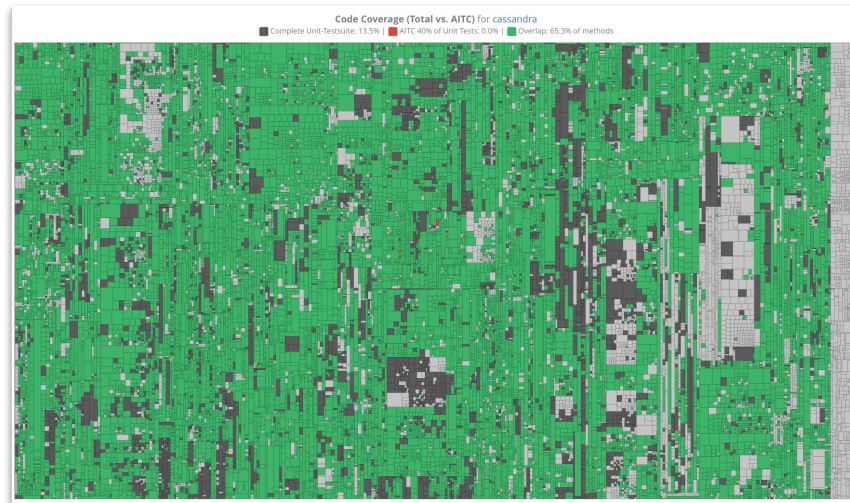


Name	Max. Duration ?
test/unit/org/apache/cassandra/CassandraXMLJUnitResultFormatterTest.java/CassandraXMLJUnitResultFormatterTest/testFailureThenErrorProducesOneStatusChild	3ms
test/unit/org/apache/cassandra/cql3/validation/entities/FrozenCollectionsTest.java/FrozenCollectionsTest/testSecondaryIndex	439ms
test/unit/org/apache/cassandra/repair/autorepair/AutoRepairConfigTest.java/AutoRepairConfigTest/testIsAutoRepairSchedulingEnabledDefault	46ms
test/unit/org/apache/cassandra/tools/HashPasswordTest.java/HashPasswordTest/testStdIn	183ms
test/unit/org/apache/cassandra/cql3/ListsTest.java/ListsTest/testPrecisionTime_getNext_RollOverNanos	156ms
test/unit/org/apache/cassandra/cql3/validation/operations/CQLVectorTest.java/CQLVectorTest/udf	496ms
test/unit/org/apache/cassandra/transport/ProtocolNegotiationTest.java/ProtocolNegotiationTest/validateReceivedMessageVersionMatchesNegotiated	121ms

AITC: Testbudget



13%



40%