



NEXT GENERATION TEST AUTOMATION

Presented by Stephan Schulz, CTO of Conformiq

About Conformiq

- **Founded in 1998 in Finland**
- **Software & support services**
 - Conformiq 360° Test Automation
 - 3rd generation of software
 - General purpose test design and automation tools
- **Worldwide locations**
 - San Jose, CA, USA (HQ)
 - Helsinki, Finland (R&D)
 - Bangalore, India (R&D)
 - Paris, Hyderabad, Toronto (sales & support)
- **Partner with SDLC tool providers and testing services companies**
- **Customers worldwide**
 - Fortune 100 Enterprise & Networking markets
 - BFSI, Telecom service providers



CIO Review
20 Most Promising
Software Testing
Solution Providers 2015

Food for Thought

- What percentage of tests do you execute today in an automated way? Regression versus progression?
- What is your current requirement coverage?
- How confident are you that all of your regression tests actually need to be executed (at all)?

Data from a Previous Poll (Enterprise IT - EU)

- What percentage of tests do you execute today in an automated way?
- What is your current requirement coverage?

More than 80%	10%
Between 41% and 80%	12%
Between 20% and 40%	15%
Less than 20%	56%
We do not automate	7%

More than 81%	28%
Between 61% and 80%	35%
Less than 60%	28%
Not sure	10%

Some Related Quotes

- “We have 3 testers per developer and defects still slip through.” *Cardinal Health Test Lead*
- “I have 30,000 test cases and my testers can not tell me what they cover.” *Huawei Test Director*
- “I was surprised about the throughput of one of my testers – until I decided to review his test scripts ...”
Enterprise IT Test Manager

In a Perfect World: What would I want?



Increase productivity

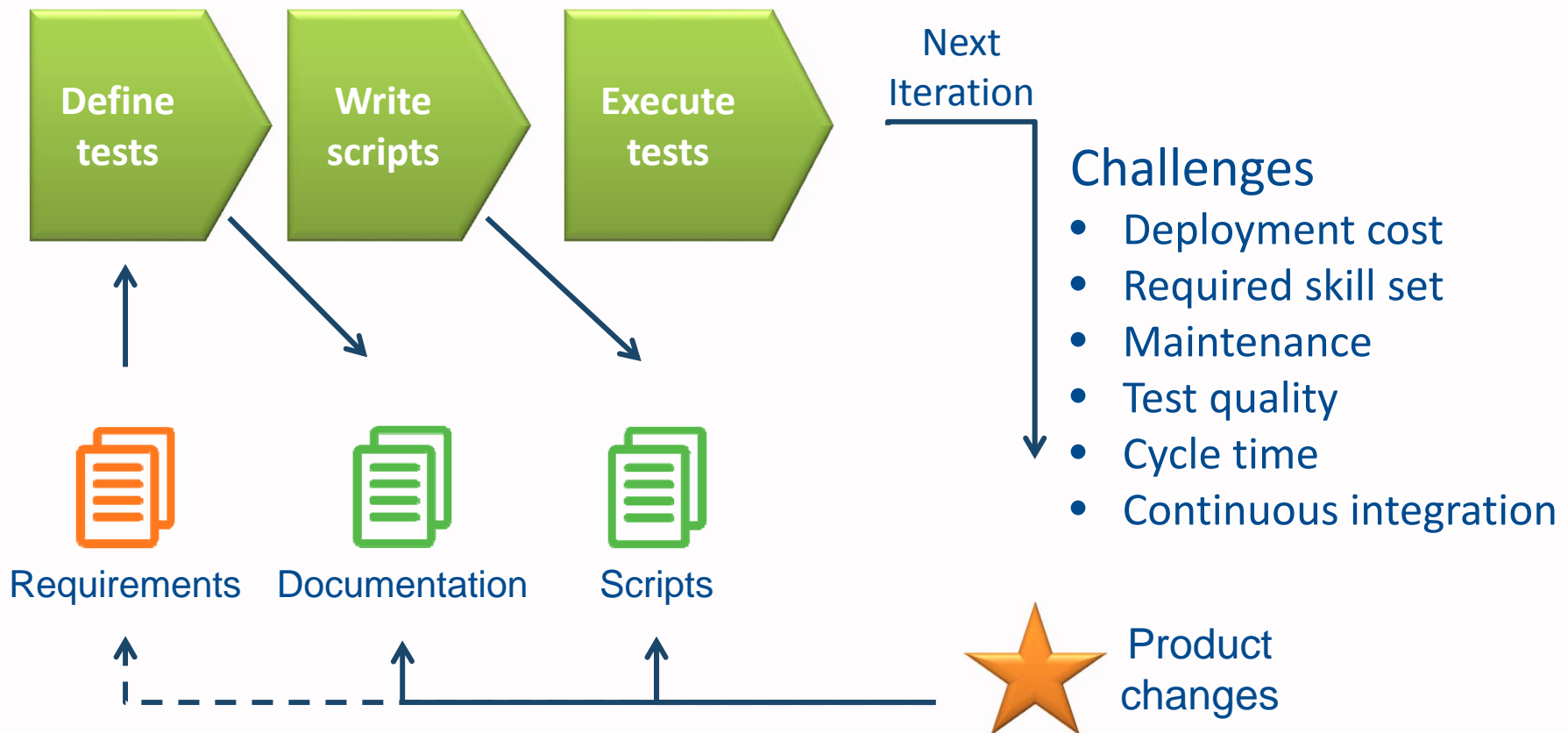
100%

Increase and optimize test coverage

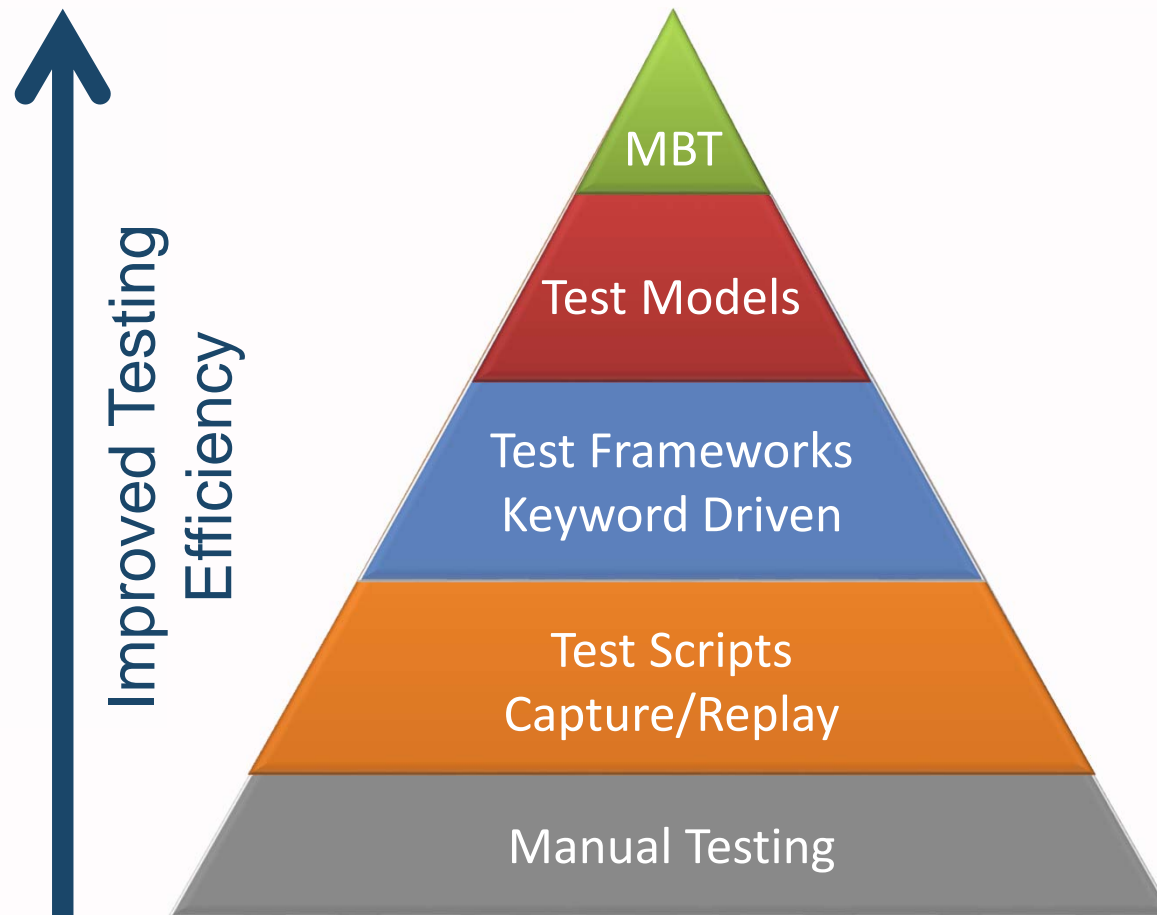


Full and complete integration

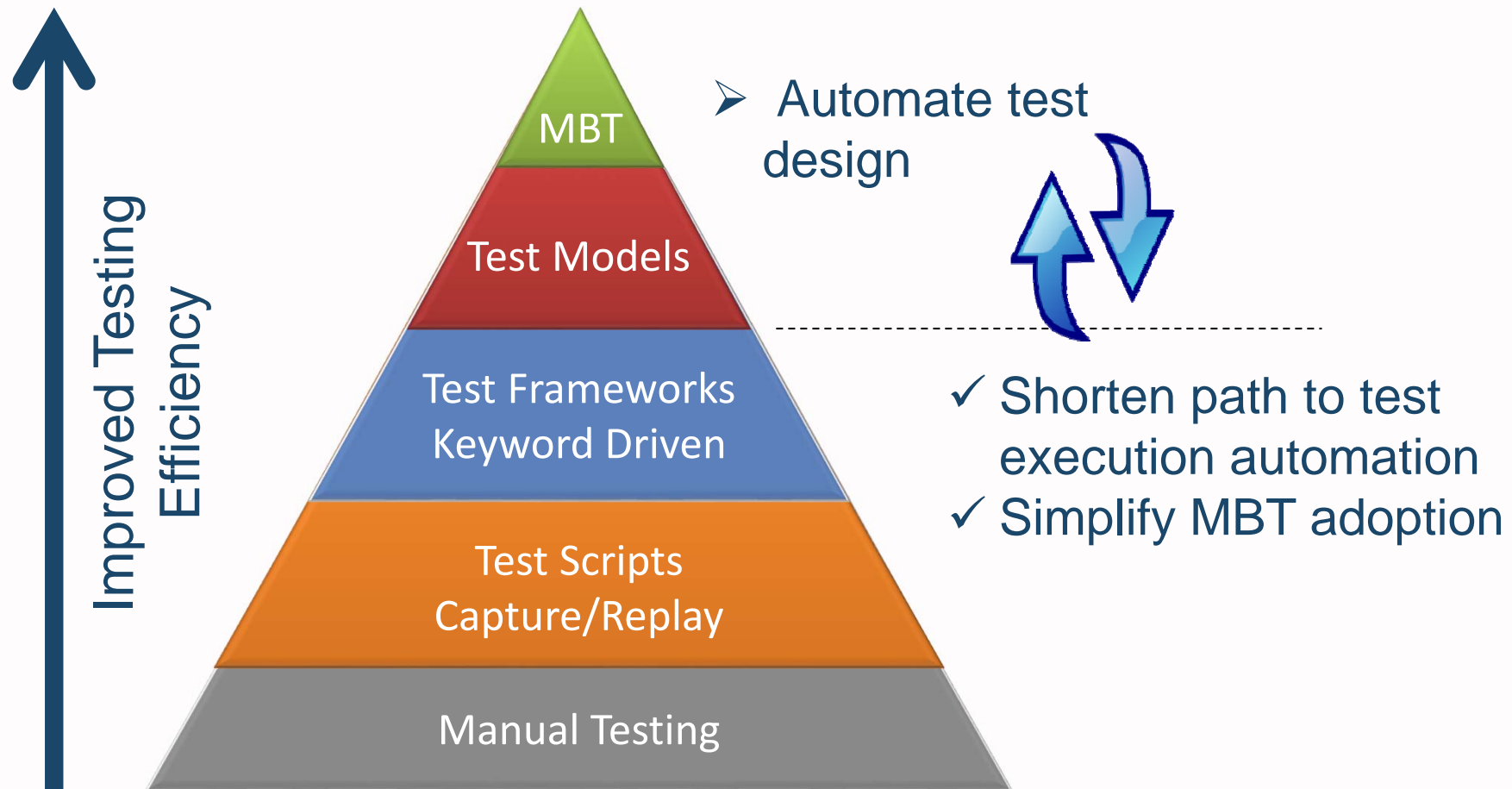
It Takes More than Automating Test Execution



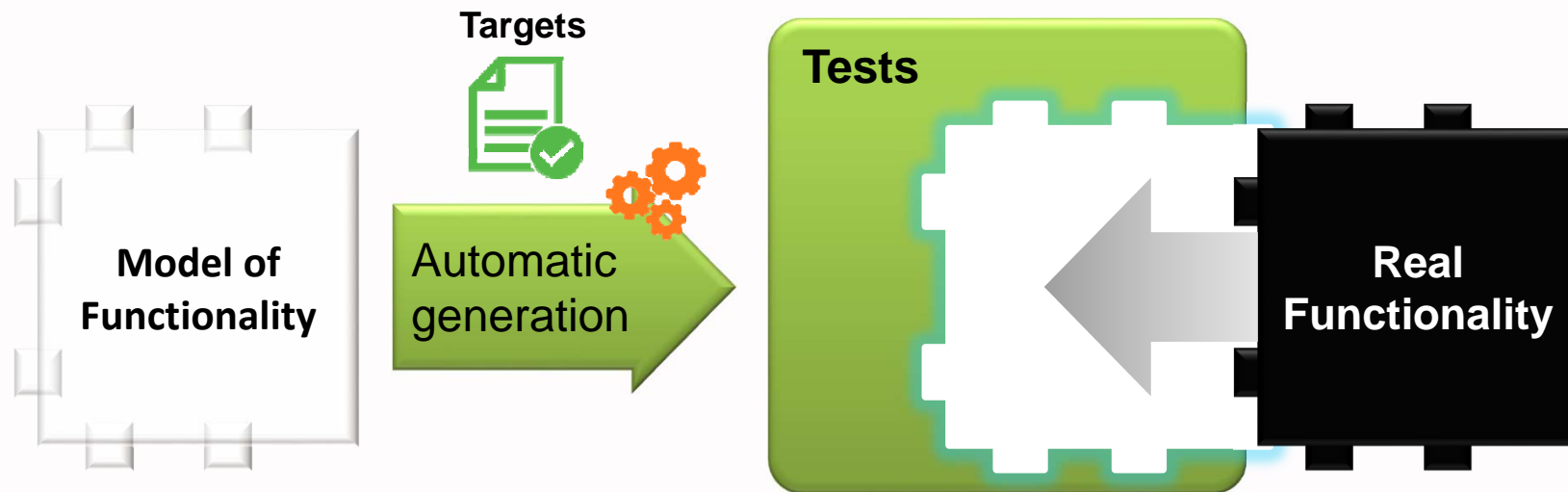
Evolution of Software Testing



Combine MBT with Test Execution Automation

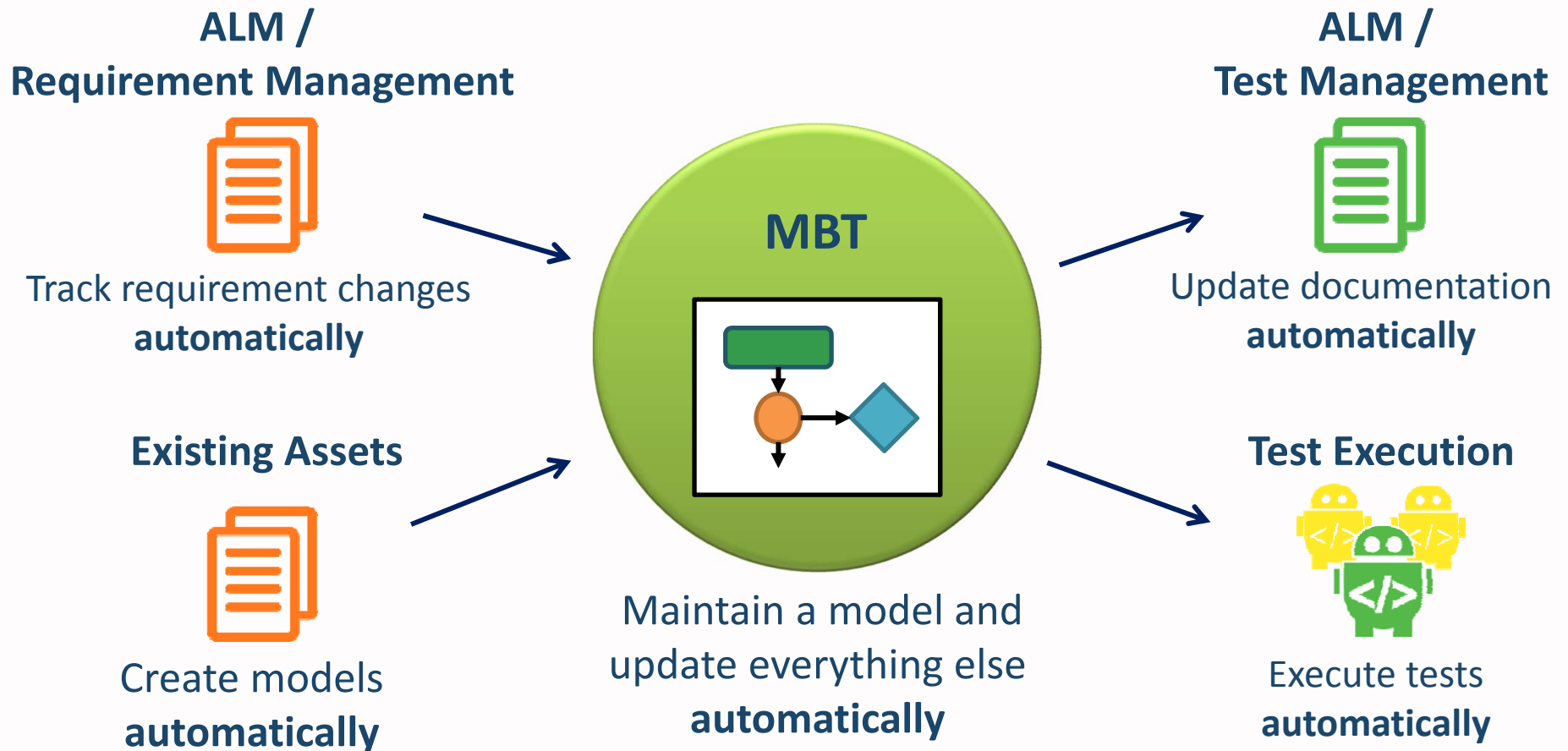


What is Model Based Testing?

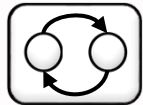


- Capture operation of application in a model instead of writing tests
- Generate tests and test data based on your targets
- Higher coverage & faster test execution from automatic test design
- Scripts, documentation, and coverage automatically in sync

Next Generation Test Automation



Model Based Testing is Disruptive



Functionality vs Path



Application vs Environment

95%

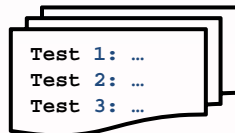
Coverage vs Number of Tests



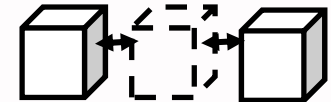
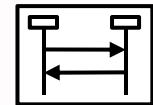
Abstraction vs Detail



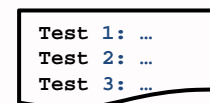
Automated vs Manual Design



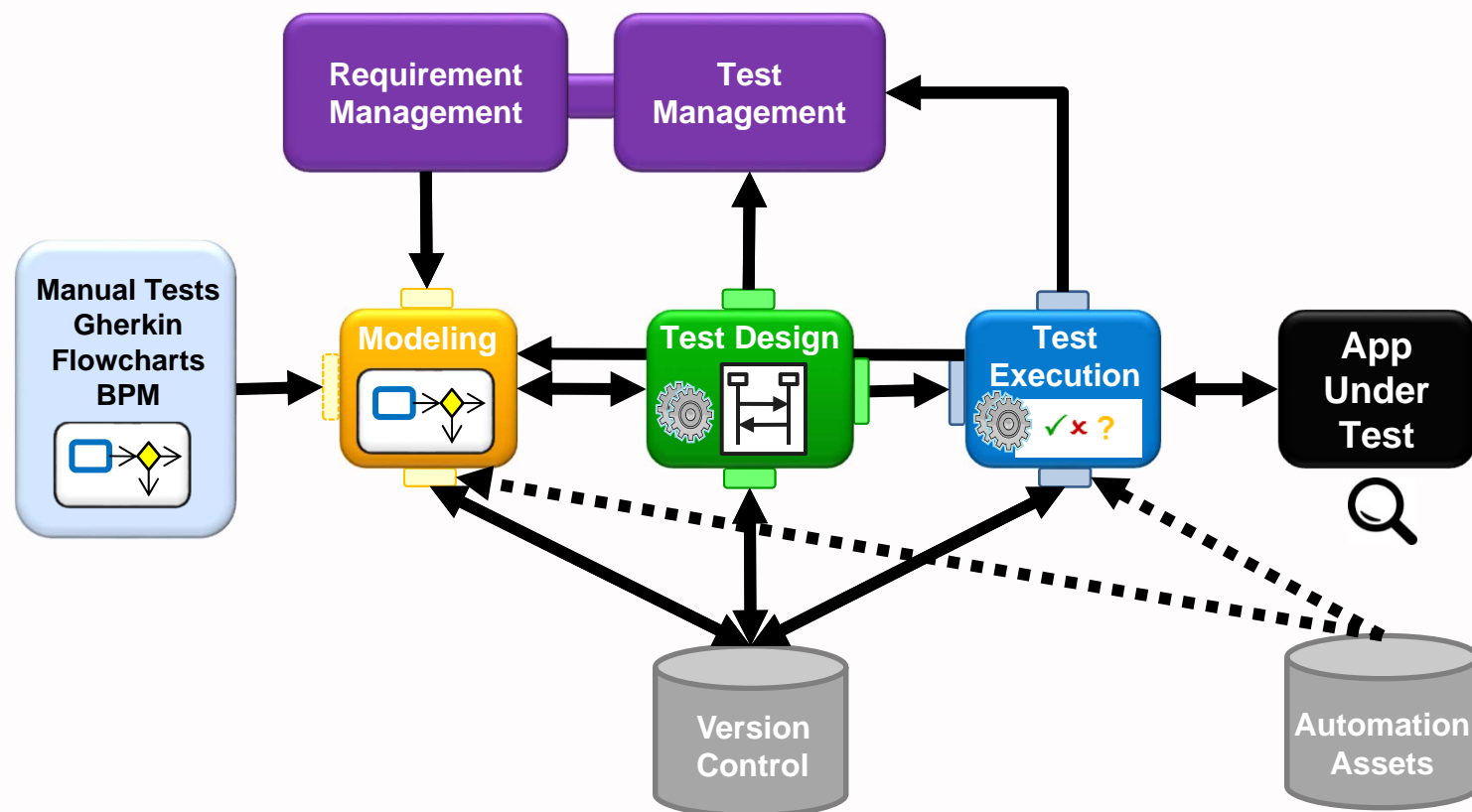
Flexible vs Fixed Test Sets



42

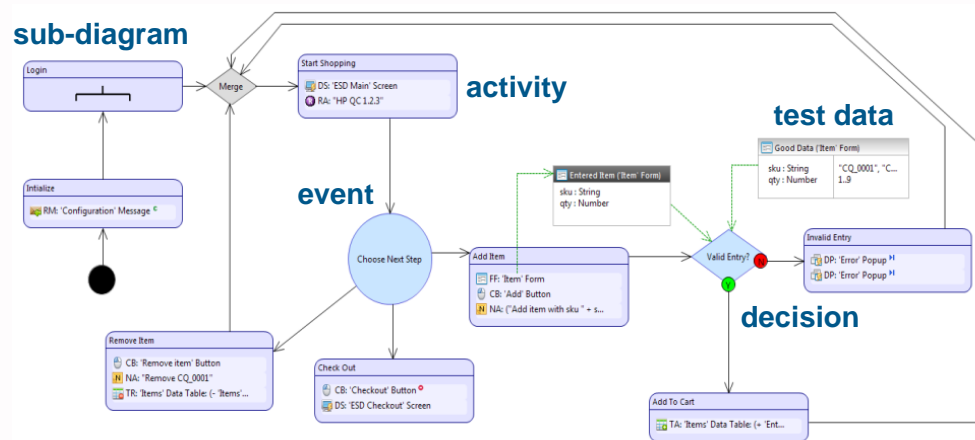


Complete Automation of End2End Testing Process



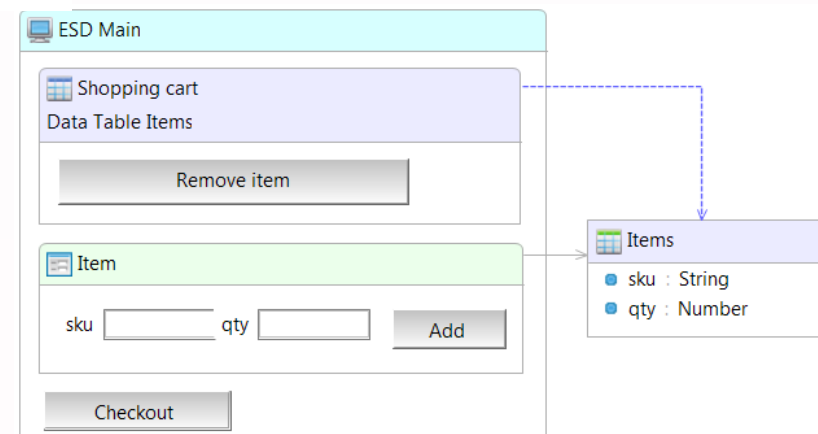
Model Capture from Existing Assets

1



- Model requirements in workflows to be tested
- Import Gherkin feature files or manual tests from spreadsheets
- Import models from flowchart or other BPMN tools

- Model across all interfaces available for testing
- Import interface information from UI recordings, API specs (WSDL/XSD, WADL/JSON, ...)



Review Automatically Generated Tests

2

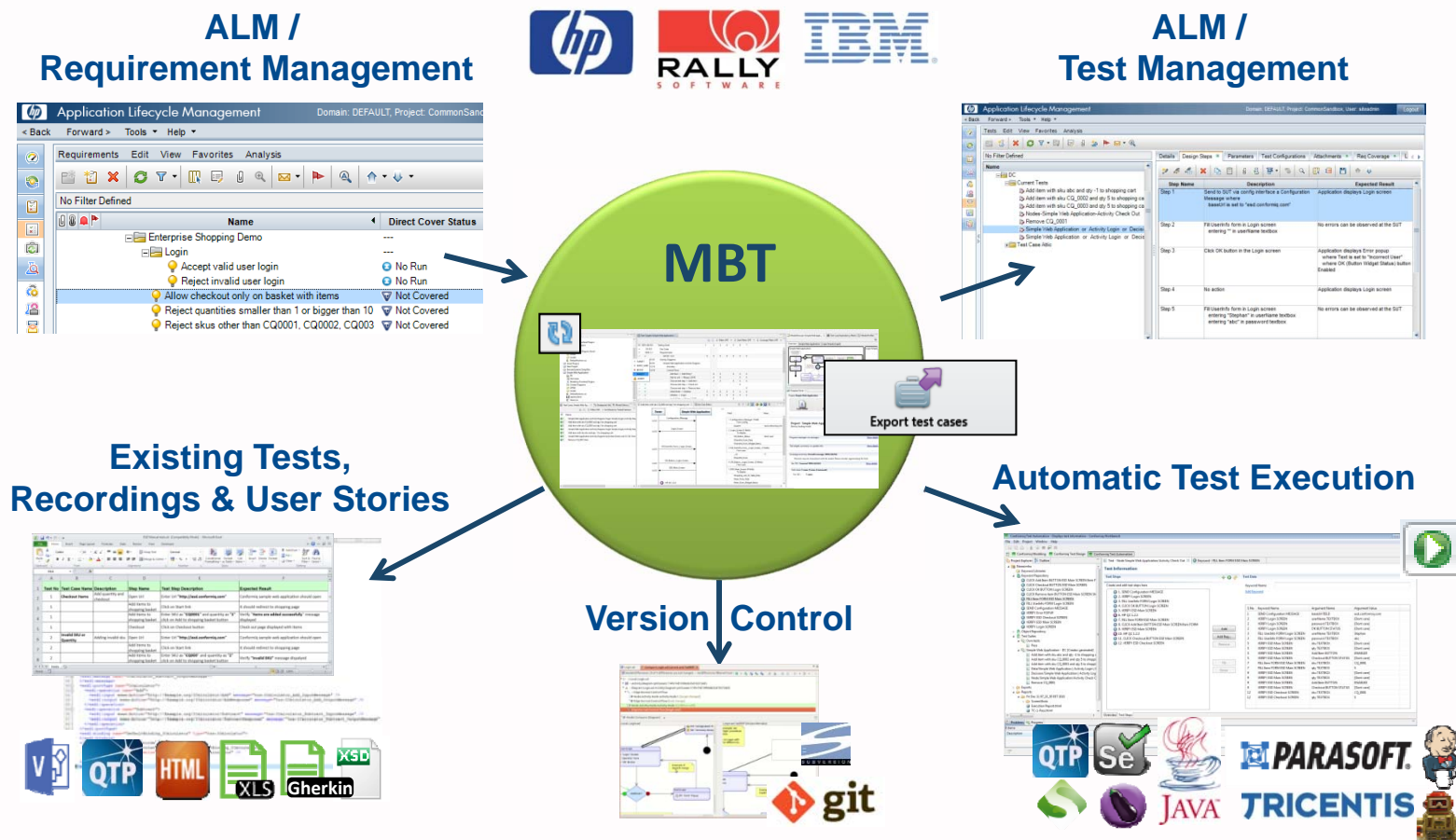
The screenshot displays the Conformiq Test Design software interface. Key components include:

- Project Explorer:** A tree view on the left showing the project structure, including 'Simple Web Application' and its sub-components like 'Login' and 'Add Item'.
- Test Targets:** A central panel showing a table of test targets with columns for 'Testing Goals', 'Requirements', 'Activity Diagrams', and 'Nodes'. It lists various test cases and their associated goals.
- Test Case Dependency Matrix:** A panel on the right showing a dependency graph between test cases, with nodes representing test cases and arrows indicating dependencies.
- Test Steps & Data:** A panel at the bottom left showing a sequence of test steps, including 'Receive Configuration message', 'Display Login screen', 'Fill User Info form', 'Click OK button', 'Display ESD Main screen', and 'Fill Item form'.
- Generated Tests:** A panel at the bottom right showing a list of generated test cases, including 'Simple Web Application | Activity | Login | Decision', 'Add item with sku CQ_0002 and qty 5 to shopping cart', and 'Remove CQ_0001'.

- Validate assumptions with all stakeholders before test execution
- Know what you cover ... and what you don't!

Integrate with all [Existing] SDLC Tools

3



It is not a Dream or Vision - it is Very Real!

- “From 3 Stars Rating to 5 Stars in the App Store”
Javier Moscardó - Spotify - UCAAT 2015 (best presentation)
- “Requirements and Challenges with Advanced Test Automation, The Industry Perspective”
Sigrid Eldh - Ericsson - UCAAT Keynote 2015
- “The World's Largest MBT Deployment Transforms Testing for Quality at Agile Speed”
Clark Cochran - Conformiq - STC 2015
- “Shifting Test Automation to the Left of SDLC”
Ish Kumar – Tech Mahindra – Blog 2015

What will get us to the “6 star rating”?

- Next step in evolution of automated testing is appearing on the horizon already ...
 - What is likely to fail?
 - What is failing and why?
 - Is it a symptom or defect?
 - And more ...



Q&A and Discussion

Thank you!

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BACKUP