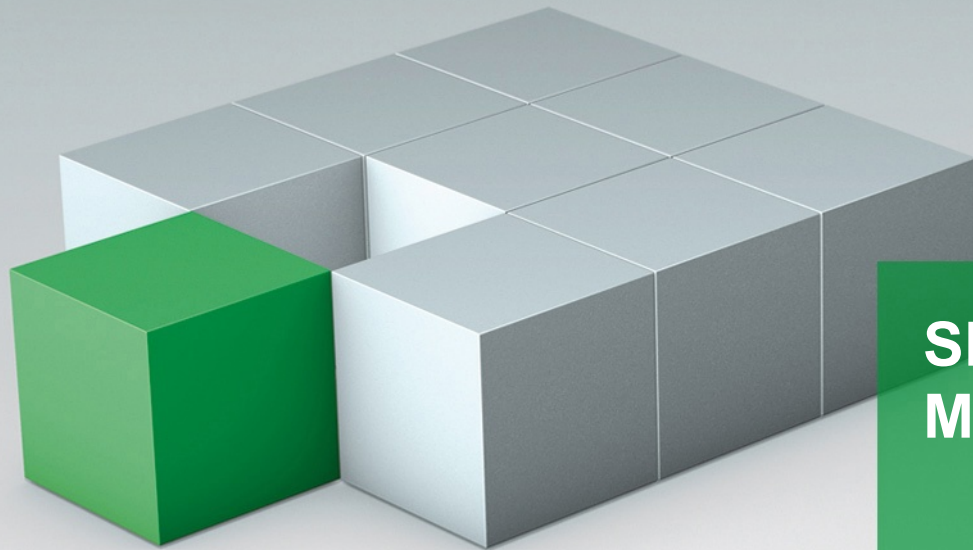


SQS. Excellence through Independence



SPL Testing for Efficient Mobile Testing

Sven Euteneuer, SQS Research

London, 2012/11/19

v1.0

SQS Software Quality Systems AG

Agenda



- Intro
- Mobile Computing: Driving Change in the Testing Business
- Key Differentiators to Business As Usual
- Resulting Challenges: Multi-Channel- $\{$ Development \mid Testing $\}$
- Multi-Channel-Testing: Pragmatic Solutions
- Key Benefits & Open Issues
- Q&A



At a glance: SQS is the world's leading specialist in software quality.



» *The global leader in independent software testing and quality management services – majority of its business in Europe* «

Financial Times, 21 August 2007

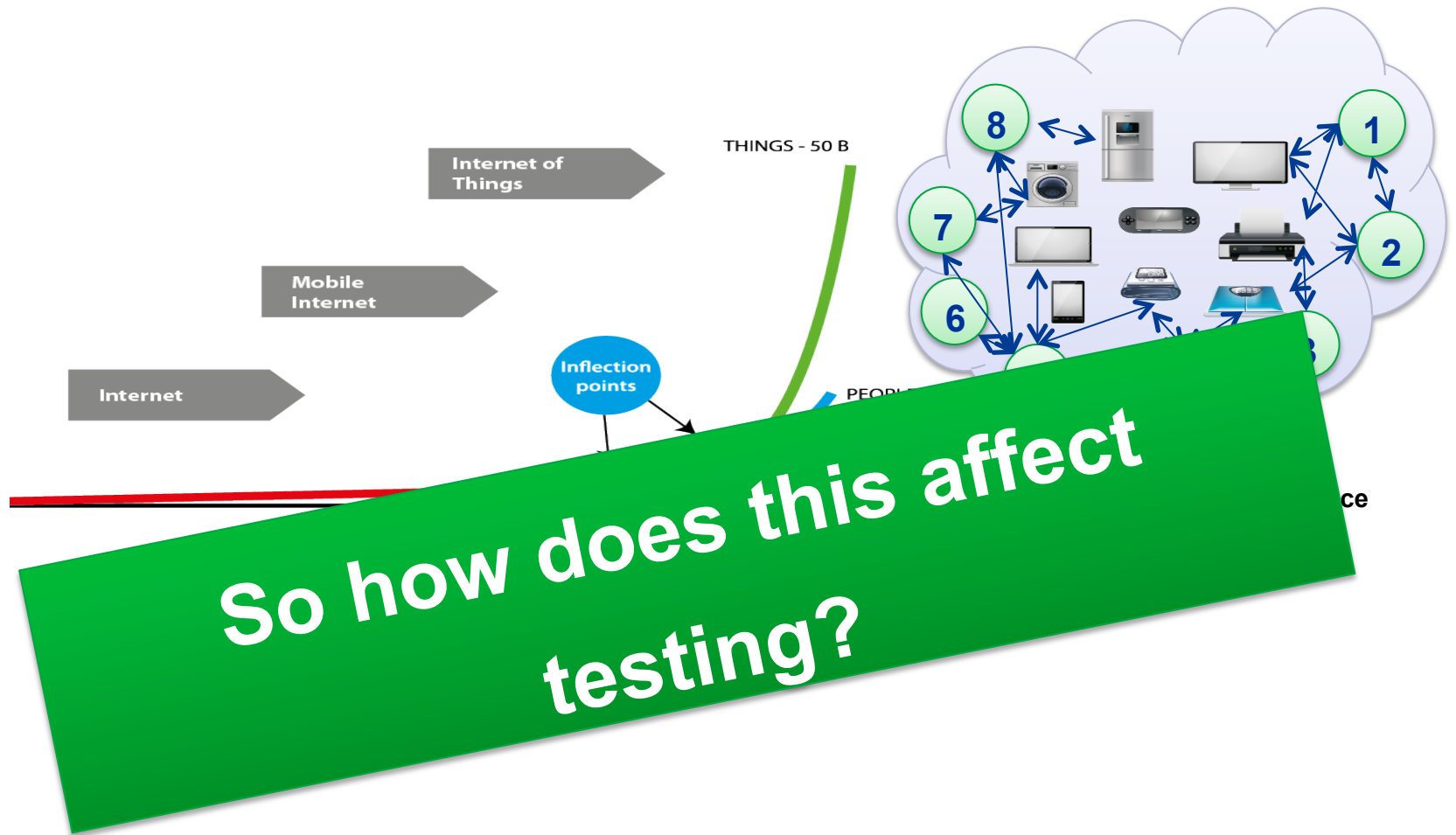
- More than 30 years of prosperous operations
- Over 7,000 completed projects
- The customer base includes 20 FTSE-100 companies, half of the DAX 30 companies and nearly a third of the STOXX-50 companies
- The SQS philosophy is to help our customers improve the quality of their business solutions.



SQS is listed on the AIM London



Cloud and Mobile/Ubiquitous Computing drive some of the biggest changes we have seen in the last decade



Mobile Testing differs from traditional testing in four key areas



The Mobile Quality Fingerprint

- Characterized by: Security, User Experience, Efficiency, Reliability
- Requiring different priorities and testing techniques

The Mobile Test Items

- Characterized by: Software delivery, changing networks, etc.
- Requiring different test cases, test data, test environments and test tools

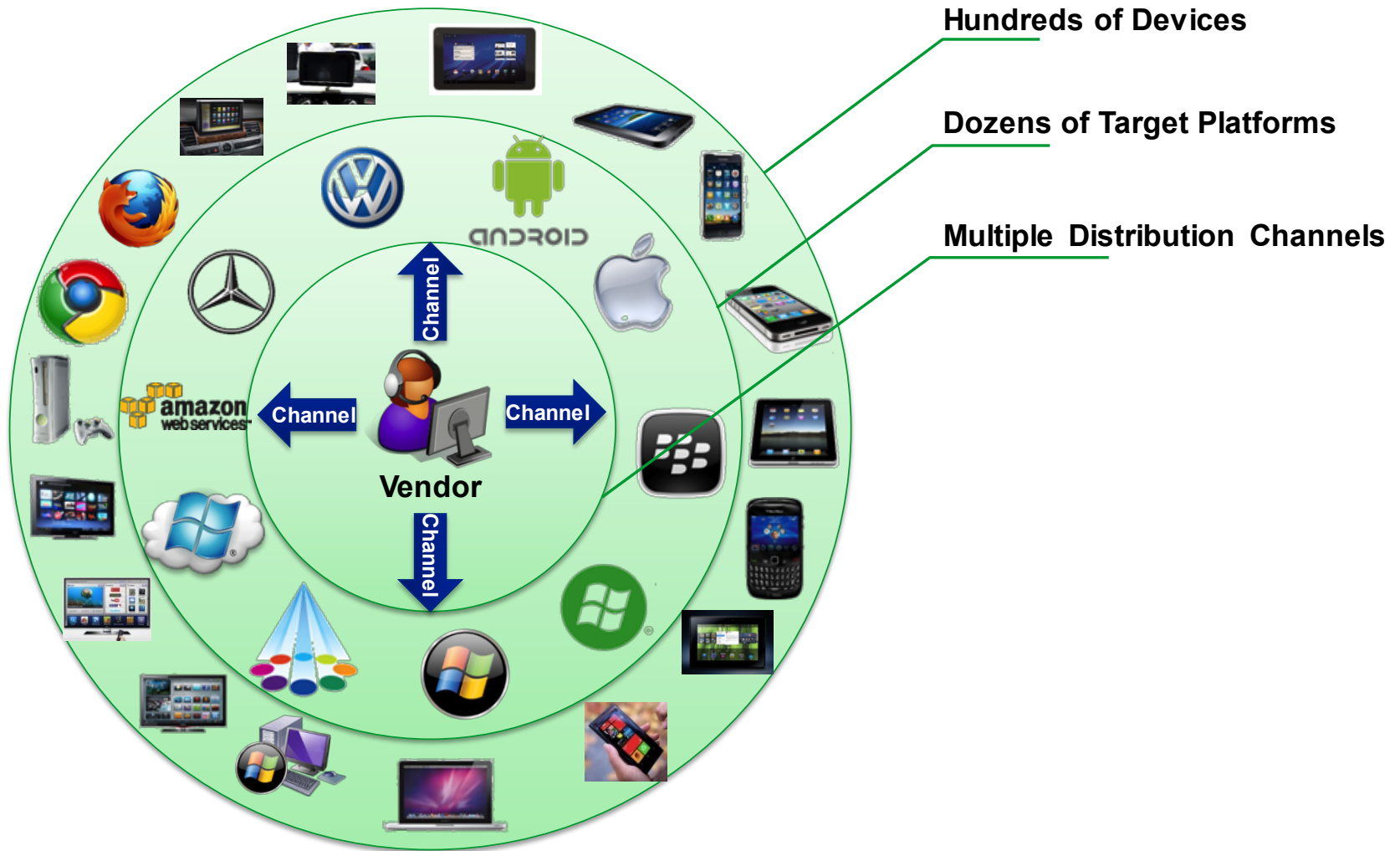
The Mechanics of the Mobile Ecosystem

- Characterized by: Short innovation cycles, delivery to tight schedules
- Requiring highly systematic yet nimble project and test management approaches

Multi-Channel S/W Development and Testing

- Well, we'll cover that in a second...

What is Multi-Channel about?

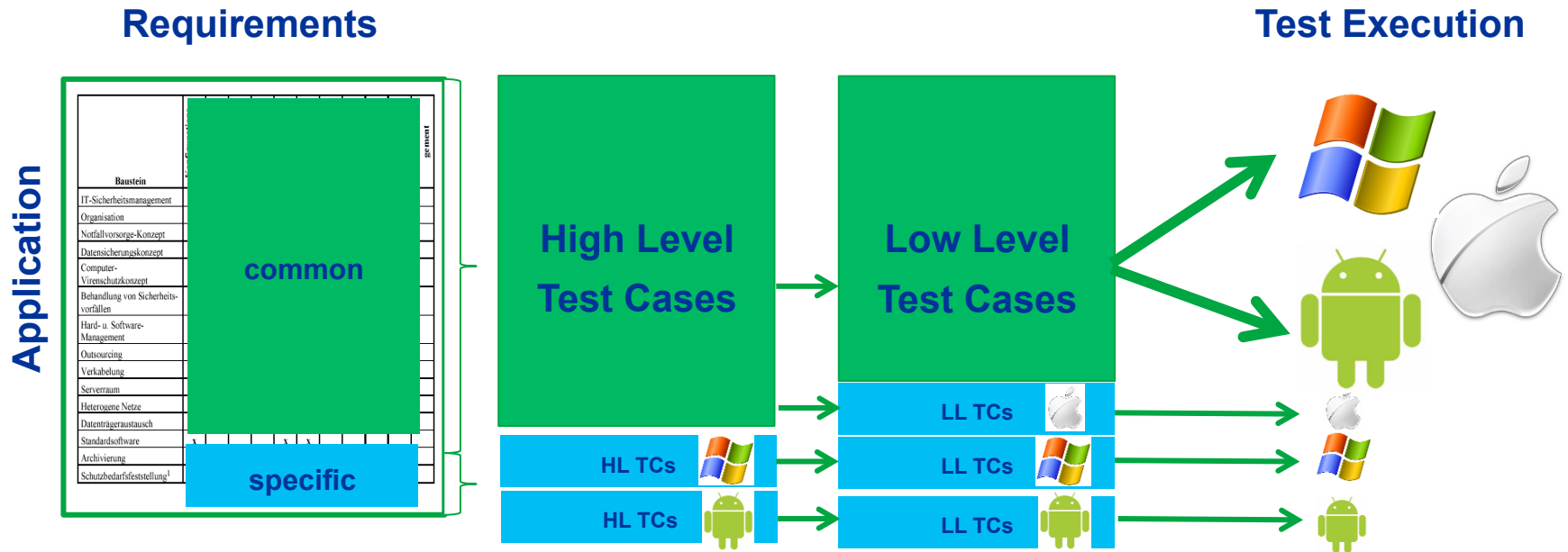


The term multi-channel development (MCD) characterizes the act of **developing software products** for distributing their value-add through **multiple different channels** with **identical subsets of functionality**, resulting in a **potentially large number of target platforms**.

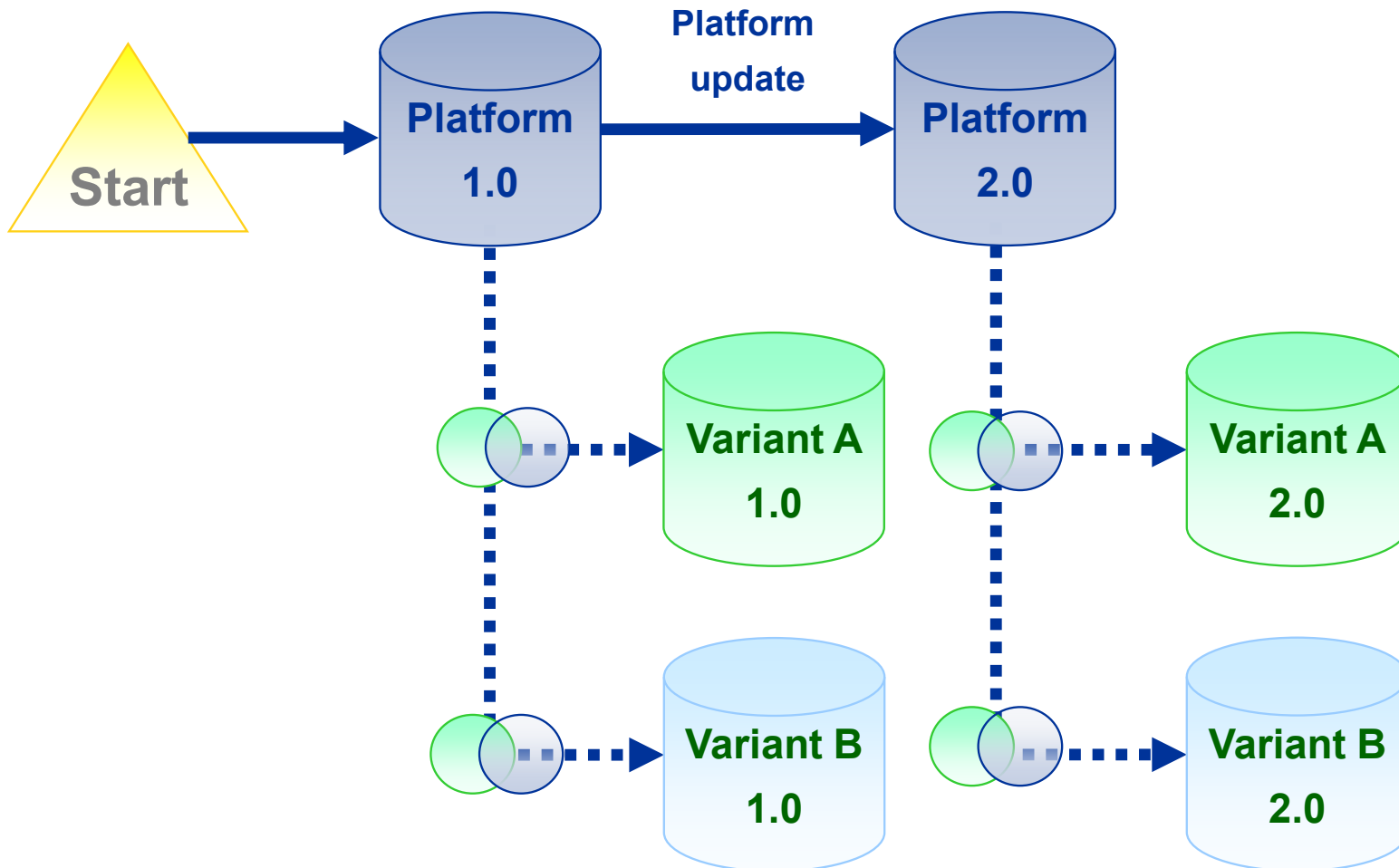


A set of software-intensive systems that share a common, managed set of features satisfying the specific needs of a particular market segment or mission and that are developed from a common set of core assets in a prescribed way.

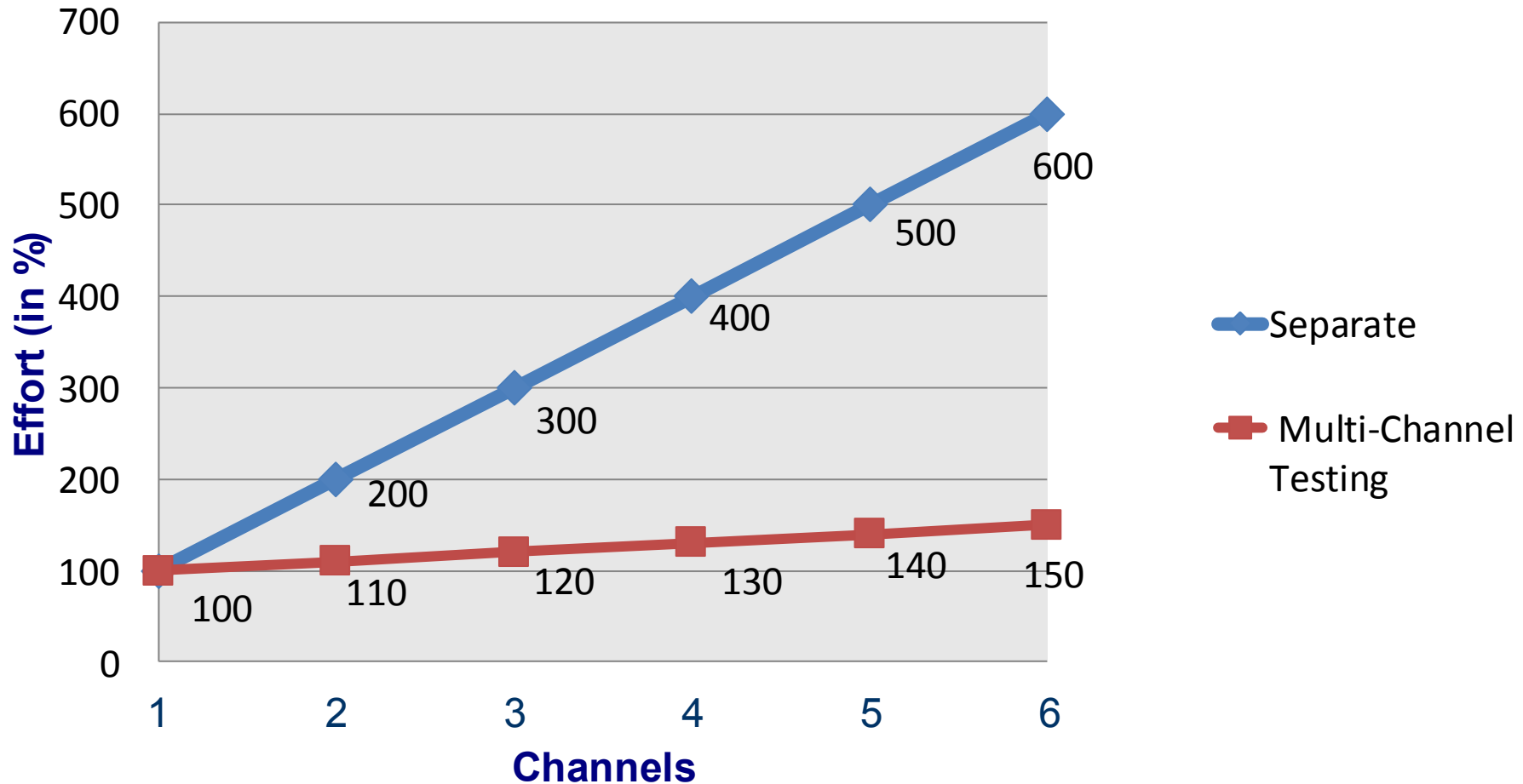
(Source: CMU Software Engineering Institute)



Multi-Channel Testing: A case for testware product lines



Multi-Channel Testing case study gives first indication concerning efficiency



MCT supports increase in efficiency compared to traditional approaches



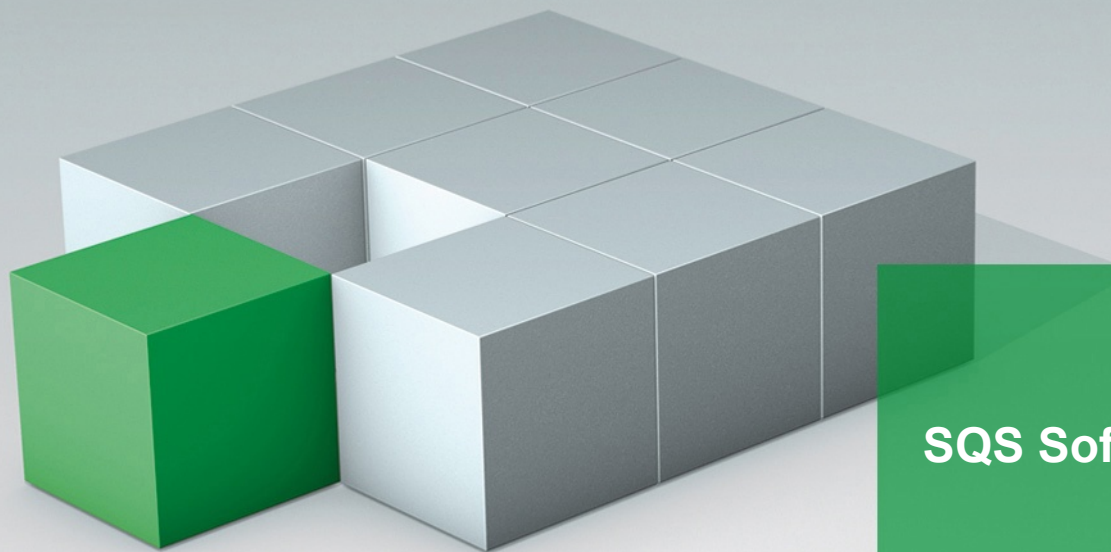
Benefits

- Without MCT the combinatorics of mobile channels would render systematic testing uneconomical or even infeasible
- MCT helps alleviate this pain by providing techniques to factor out common requirements and test cases
- Tool support supports practical adoption in the field

Open Issues

- Works well only for simple scenarios where multi channel testing implies multi-release testing
- Complex scenarios with problematic interdependencies between channels and, thus, sets of requirements that are not easily mapped to simple categories

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Stollwerckstraße 11 | 51149 Cologne, Germany
Phone.: +49 22 03 91 54-1392 | Fax: +49 22 03 91 54-15
E-Mail: sven.euteneuer@sqz.com
Internet: www.sqs.com

Thank you for your attention