

### Title of Paper

## What Every Software Architect Should Know About Testing!

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### Presenter

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### Instructional Level

Introductory     Intermediate     Advanced

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### Target Group

Architects, developers, test practitioners, test engineers, development managers, project leads, software and test managers, QA managers

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### Keywords

- Dimensions of testing
  - Software Architect and testing
  - Architecture testing
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### Abstract

*“Architects build software systems and testers test these systems” – so why should an architect need to know anything about testing?*

This session motivates testing by providing a multi-dimensional view on what testing really is and describes the importance and criticality of testing for project success. Then best practices in testing regarding software architecture are presented and required involvement and contributions by software architects to specific testing tasks are explained. Furthermore the needed cooperation between the test manager and the software architect is investigated in detail. This results not only in better quality but also speeds up development by facilitating change and decreasing maintenance efforts.

If you are a software architect then after this session you will know and understand what's your job w.r.t. testing.

If you are a tester then after this session you will know what your software architects should do w.r.t. testing, and you will have all the pieces together to educate them in better testing that will definitely improve and simplify your life as a tester.

### 5 Key points:

- A comprehensive view of testing which reflects the various dimensions of testing is needed to understand its importance.
  - Quality must be built-into the architecture; it cannot be tested in later.
  - The software architect must be actively involved in different testing activities.
  - According to “Unit testing” define “Architecture Testing” as any testing of architecture and architectural artifacts.
  - The software architect cooperates closely with the test manager to define, motivate, drive, and enforce a comprehensive understanding of and attitude to testing and quality in the whole team.
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## Biography

**Peter Zimmerer** is a Principal Engineer at Siemens AG, Corporate Technology, in Munich, Germany. He studied Computer Science at the University of Stuttgart, Germany and received his M.Sc. degree (Diplominformatiker) in 1991. He is an ISTQB™ Certified Tester Full Advanced Level.

For more than 15 years he has been working in the field of software testing and quality engineering for object-oriented (C++, Java), distributed, componentbased, and embedded software. He was also involved in the design and development of different Siemens in-house testing tools for component and integration testing.

At Siemens he performs consulting on testing strategies, testing methods, testing processes, test automation, and testing tools in real-world projects and is responsible for the research activities in this area. He is co-author of several journal and conference contributions and speaker at international conferences, e.g. at Conference on Quality Engineering in Software Technology (CONQUEST), SIGS-DATACOM OOP, Conference on Software Engineering (SE), GI-TAV, STEV Austria, SQS Software & Systems Quality Conferences (ICS Test), SQS Conference on Software QA and Testing on Embedded Systems (QA&Test), Dr. Dobb's Software Development Best Practices, Dr. Dobb's Software Development West, Conference on Testing Computer Software, Quality Week, Conference of the Association for Software Testing (CAST), Pacific Northwest Software Quality Conference (PNSQC), PSQT/PSTT, QAI's Software Testing Conference, EuroSTAR, and STARWEST.

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