Giesecke & Devrient –
From Printing Paper Securities to Providing High-Tech Solutions

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Why do I need an integrated test strategy?

- Modern testing employs several test phases
  - Review (static analysis)
  - Unit testing
  - Integration testing at several levels (Component, Subsystem, …)
  - System testing
  - Acceptance testing
  - Field testing, Beta testing
  - Production testing
- An integrated test strategy aims at reducing the overall effort
  - Not everything is tested at every level
  - Tests from previous test phases and their results are taken into account when test at higher level are performed
  - Tests are run where it is easier or cheaper

Software Test Automation in the Development Cycle

- Product Acceptance Test
- Stable system releases for system testing
- Pre-tested unit integrated and tested at component level using TTCN-3 test automation
- Automated Unit Tests integrated into the Build
- Reviews of architecture, design and code ensure high quality of inputs to tests
Models from UI Specification

Test generation control with strategy

- Separate concerns
  - Model describes behavior
  - Strategy controls the test generation
    - Depth of state machine reached
    - Abstraction of information (TTCN-3 template vs. English in Excel)

- Adjust strategy when needed
  - Increase depth or coverage of model
  - Reassign tests from integration to system testing and vice versa
Targets for test generation

- Integration tests
  - TTCN-3 test automation
- System tests
  - Excel (HPQC)

Summary

- Common models benefit from the right level of abstraction
- Common ownership reduces possibility of deviations
- Variable test generation enables a common understanding on implemented test strategy
- Buy-in from development and system test to work with models