TMap Next
The global test standard

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Agenda

• Introduction
• Test and its pressures
• How TMap can help
• TMap Essentials
• Close
Sogeti: A Worldwide Testing Leader

- **Sogeti Group**
  - 20,000 Professionals
  - 200 locations in 14 countries
- **Providing worldwide standards**
  - Copyright TMap® and TPI® brands
  - Dedicated R&D on new developments
  - Test thought leadership

**Part of**

- Leader in consulting, IT and outsourcing
- 88,000 staff
- Revenue £8.7 billion
- Sogeti:
  - £1.6 billion revenues
  - Testing revenues
  - £150M (2007)
  - £190M (2008)

Our core (underlying) objective is reduced cost through an improved process

- Improved quality
- Improved flexibility
- Reduced time-to-test/market
- Reduced risk
- Increased capacity

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Why do we test?

- **Business demands Quality**
- **Testing is crucial** for proven quality
- Testing = 30% to 50% total costs of new development projects
- And upwards of 80% on maintenance projects
Pressures on software projects

**Business**
- Maximum value from software
- Take control on risks
- Manage risks
- Make better decisions

**Test Project**
- Many different disciplines
- Conflicting interests
- Unpredictability
- Time pressure
- Complex management

What should the solution be?

**The test process should:**

- Deliver insight into, and advice on, any risks in respect of the quality of the tested system
- Find defects at an early stage & prevent defects
- Have testing on the critical path of the total development as briefly as possible
- Ensure test products are reusable
- Make the overall test process understandable and manageable

**Deliver “more for less, faster and better”**
There is more to testing than testing...

- Execution should be the only visible part but usually only accounts for 40% of all test activities
  > Critical path of most projects
- The other activities preparing and planning usually account for 60%  
  > Not usually recognised  
  > Can give biggest benefits  
  > Needs early involvement
- TMap can help deliver a structured test process to manage with all these activities

TMap - Test Management approach

**What is TMap?**
- Structured test methodology of use to all who deal with the test process
- Contains tips, cases, examples and templates to help the test team
- Completely flexible for use in any test situation

**What is it principle?**
- It's got 4 of them:
  1) its based on business driven test management
  2) it specifies a test life cycle
  3) it provides a complete tool set
  4) it's adaptive to any situation

**Typical results from using TMap**
- Client has maximum grip on the testing process
- Correct test coverage with more controllable costs
- Well planned and controlled test process
- Move from being reactive to being more proactive

**Facts about TMap**
- TMap is an accepted testing standard
- Approaching it’s 15th birthday!
- Constant R&D on TMap resulting in add-ons  
  ➔ ERP/CRM/Web/Embedded testing/etc...
TMap - A short history

- 1995 – First edition of the method
- 1999 – Second edition
- 2002 – A guide to the TMap Approach
- 2004 – TMap Test Topics
- 2006 – TMap Next standard
- 2008 – TMap Next Business Driven Test Management

What is a Structured Test?

A structured test process aimed at early detection of defects in a cost effective manner resulting in clear insight into software quality
TMap Next – A Structured Test Process

4 Essentials

1. Business Driven Test Management (BDTM)
2. Test Life Cycle
3. Complete Toolbox
4. Adaptive

TMap Next offers the tester guidelines to deliver results for the client

Essential 1 - Business Driven Test Management

Critical success factors
Change requests
Requirements
Business processes

Critical Path

Client

Result, Risks, Time and Costs

Formulate assignment and collect test goals

Determine risk category

Determine light/heavy testing

Assign test techniques

Specify test cases

Test execution

Critical Path
Master Test Plan

Managing the total test process

Plan

Control

Master Test Plan (2)

Checking for completeness

- Connectivity
- Efficiency
- Flexibility
- Functionality
- (Suitability of) infrastructure
- Maintainability
- Manageability
- Performance
- Portability
- Reusability
- Security
- Suitability
- Testability
- User-friendliness
- Data controllability

To test or not to test
### Master test plan strategy table

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Risk Class</th>
<th>Reviews</th>
<th>Dev. test</th>
<th>System test</th>
<th>User Acct</th>
<th>Prod Acct</th>
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</thead>
<tbody>
<tr>
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<td>A</td>
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<tr>
<td>User-friendliness</td>
<td>C</td>
<td>⬤</td>
<td>S</td>
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<td>I</td>
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<td>C</td>
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</tr>
</tbody>
</table>

- A = High Risk
- B = Average Risk
- C = Low Risk
- ⬤ = Limited thoroughness
- ⬤ = Medium thoroughness
- ⬤ = High thoroughness
- S = Static Testing
- I = Implicit Testing

### Test techniques

#### Quality characteristic

<table>
<thead>
<tr>
<th>Characteristic</th>
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<th>⬤</th>
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<tr>
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<td>Elementary comparison test</td>
<td>Decision Table test</td>
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<tr>
<td>Performance</td>
<td>Real-life test</td>
<td>Stress Test</td>
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<tr>
<td>Security</td>
<td>Error Guessing</td>
<td>Semantic</td>
<td>Vulnerability</td>
</tr>
<tr>
<td>User-friendliness</td>
<td>Error Guessing</td>
<td>Process Cycle Test</td>
<td>Usability Lab</td>
</tr>
</tbody>
</table>

**Appropriate test technique**
From test basis to test cases

**Which test cases?**

**How many?**

**How do we get these test cases?**

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**BDTM Summary**

- **Achieves**
  - Less damage due to software failures
  - Insight into the risks
  - Insight into the required test effort
  - Control of test progress and results

- **Characteristics**
  - Giving the client a grip on test process
  - Using the client’s language
  - Basing testing on product risks
  - Delivering appropriate test coverage
  - Making test results visible to all concerned
The diagram illustrates the test life cycle with the following phases:

**Planning phase**
- Developing the strategy
- Estimating effort
- Setting up organisation
- Preparing test plan
- Managing control
- Reporting

**Preparation phase**
- Creating test scripts
- Creating infrastructure
- Review requirements
- Assigning techniques
- Specify infrastructure
- Realising infrastructure
- Maintain infrastructure

**Execution phase**
- Pre/smoke tests
- Test
- Retest
- Check and assess
- Preserve testware
- Evaluate process

**Completion phase**
- Manage
- Report

**Life Cycle Activities**

**Planning phase**
1. Establishing the assignment
2. Understanding the assignment
3. Determining the test basis
4. Analyzing the product risks
5. Determining the test strategy
6. Estimating the effort
7. Determining the planning
8. Allocating test units and test techniques
9. Defining the test products
10. Defining the organisation
11. Defining the infrastructure
12. Organising the management
13. Determining the test project risk and countermeasures
14. Feedback and consolidation of the plan

**Preparation phase**
1. Collection of the Test Basis
2. Creating checklists
3. Assuring the Test Basis
4. Creating the Testability Review Report

**Specification Phase**
1. Creating Test Specifications
2. Defining Critical Starting Points
3. Specifying the Test Object Intake

**Execution Phase**
1. Intake of the Test Object
2. Preparing the Starting Points
3. Executing the tests
4. Checking and assessing the test results

**Completion Phase**
1. Evaluating the test process
2. Preserving the testware
Essential 3 - Complete Toolbox

**TMap supports the correct execution of the structured test process**

- **How** is it tested?
- **Where** and with what is it tested?
- **Who** does the testing?

**Test Techniques - “HOW”**

- Estimating
- Issue management
- Metrics
- Product risks
- Test design methods
- Coverage
- Review

Test design
Test Design Methods

- Well-founded elaboration of the test strategy: the agreed coverage in the agreed place
- More effective to detect defects than ad-hoc test cases
- Tests are reproducible because the order and content of the test execution are described in detail
- Ensures that the test process is independent of the individual who specifies and executes the test cases
- Ensures that the test specifications are transferable and maintainable
- It becomes easier to plan and manage the test process because the processes of test specification and execution can be split up into clearly definable blocks

DCT: Data Cycle Test
ECT: Element Comparison Test
PCT: Process Cycle Test
RLT: Real Life Test
SEM: Semantic Test
SYN: Syntactic Test
EG: Error Guessing
DCT: Data Cycle Test
AT: Algorithm Test
PIT: Program Interface Test
DTT: Decision Table Test
ET: Exploratory Testing
Performance Test
Usability Lab
Stress Test
Hacker Test (Vulnerability)

Infrastructure - “WHERE”

- Test environments
- Test tools
- Workplaces

Test environments
Organisation - “WHO”

- Resources required
- Roles
- Specialised needs

Test organisation

Essential 4 - Adaptive

TMap can be applied in all test situations and with any development method

- Respond to changes
- Promotes reuse of products and processes
- Enables you to learn from experience
- Allows “try before use”
TMap SOA Model

- GTA: generic test agreements
- BDTM: business driven test management
- Toolbox: tools specific to SOA

TMap Planning/Control & Rational
- TMap is complementary to ISTQB’s “body of knowledge”
- ISTQB → “The what”
- TMap → “The how”
Sogeti Support

- **All Areas**
  - **Test Planning**
    - Test Strategy, Test Plans, Test Scripts
  - **Test Execution**
    - Functional, non-Functional, Automation
    - Unit, Integration, System, Acceptance
  - **Test Management**
    - Resources, Reporting

- **Capability Building**
  - Test Training, Workshops, Mentoring
  - TMap test management training (Nov 24-26)

- **Resources**
  - Testers, Test Leads, Test Managers
  - Test tool specialists & Automation experts
  - QA & Test Process Consultants

Thank you for listening

More details on TMap Next:

www.sogeti.ie

OR

http://eng.tmap.net