
End to End Testing, As Little As Possible

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End-to-End Testing: As Little As Possible

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End-to-end Testing: As little as possible!

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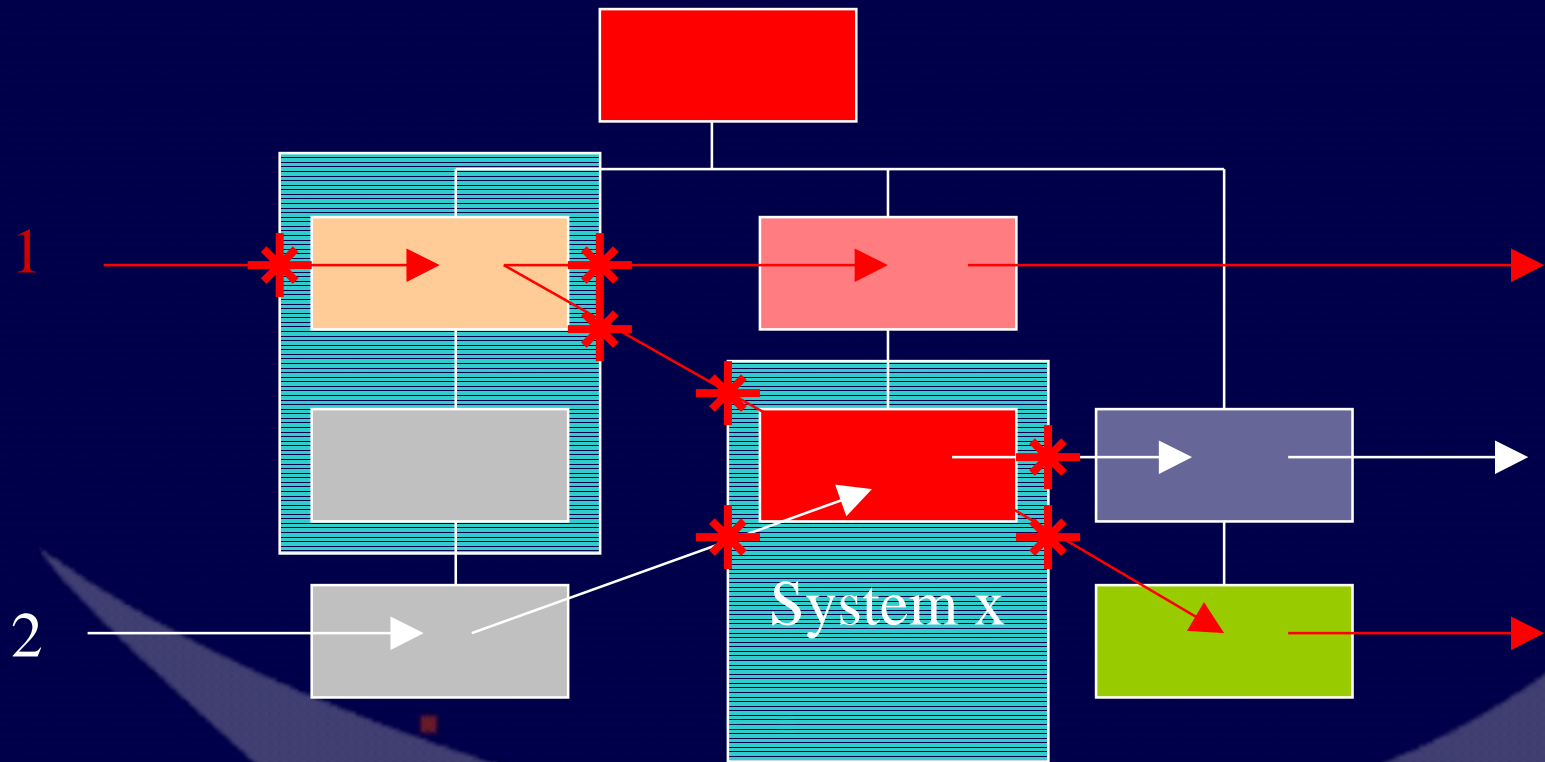
CMG TestFrame Research Centre

22 November 2001

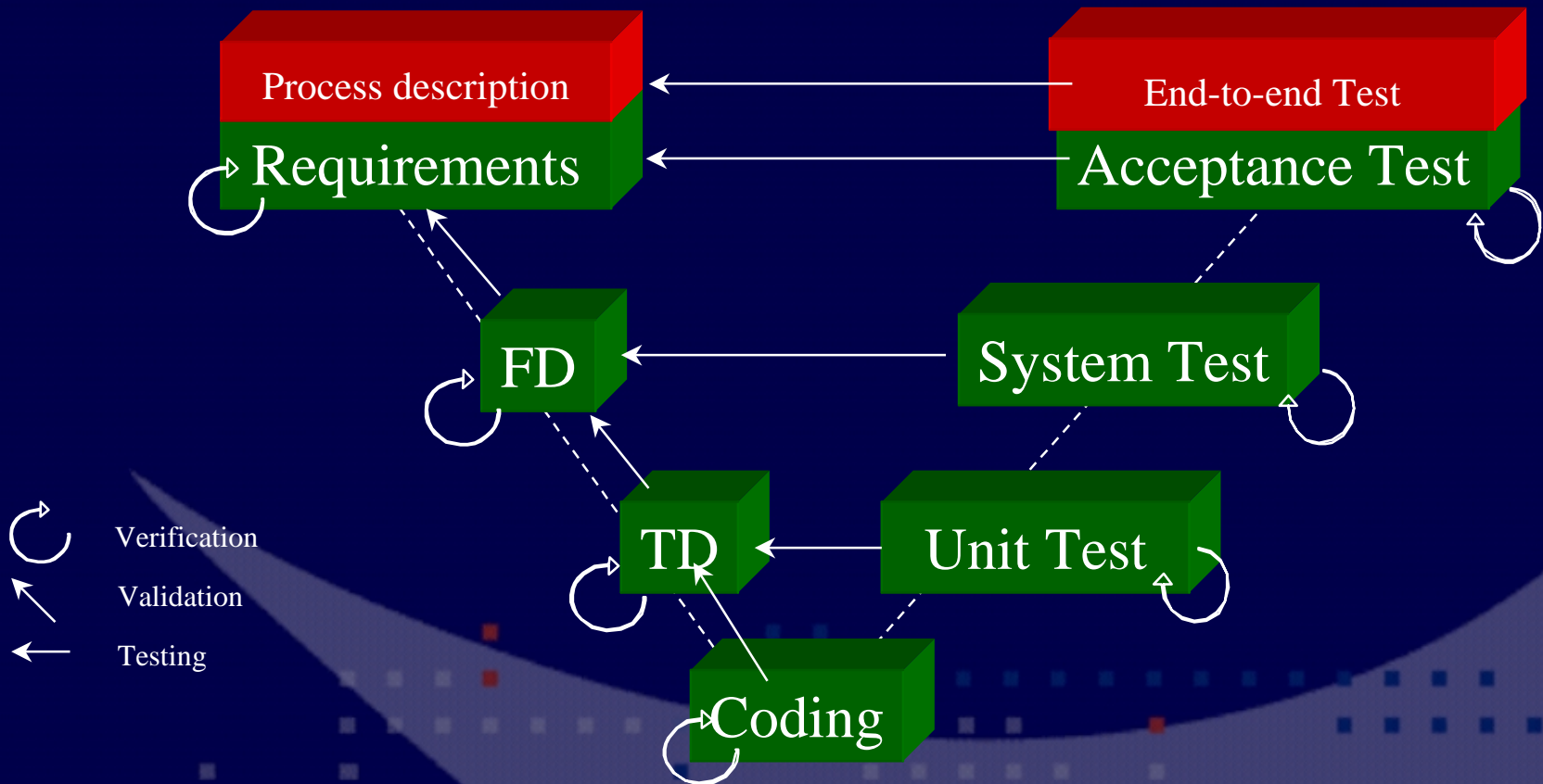
Agenda

- Why?
- When?
- Characteristics
- How to prepare an end-to-end test (E2E)
- Recommendations

Why E2E testing?



When E2E testing?



Test strategy

Only when unacceptable risks remain:
end-to-end testing



Characteristics – E2E testing (1)

- Always aimed at a business process, never at an information system
- Focus on "good" - functionality for business process
- Focus on interfaces
- Organisationally complex

Characteristics – E2E testing (2)

- Technically complex (diverse, platform transitions)
- Test components between information systems
- Also implicitly tests network architecture
- Physical output system A = physical input system B, etc.

Preparation – E2E testing (1)

- Analyse business processes and translate into chains
 - Automated
 - Manual
- Prioritise the chains
 - Based on risks
 - Not all interfaces of a system will be tested in a end-to-end test

Preparation – E2E testing (2)

- Develop test scenarios for chains
- Analyse fixed data and initial filling of database

Preparation – End-to-end testing (3)

- Realise organisation
 - Diverse organisational parts
 - Diverse specialities
 - Support
 - Appoint chain owner!!!
- Realise technique
 - Technical components
 - Testdata

Where to start?

- Are the business processes clearly documented?
- Are the applications (chain components) well documented?

Joint Testware Development (JTD)₍₁₎

- JTD = structured developed test products without (complete) documentation
- Based on RAD/JAD principles

Soap Opera Testing

- about "real life"
- but condensed
- and more extreme

Soap Operas for testing

- define a scope of the test to develop
- identify with the business environment
- which elements would make things difficult
- draft scenario's (typical some dozen lines)
- write them down in clusters

Examples of story lines when used for testing

Pension Fund

William starts as a metal worker for Industrial Entropy Incorporated in 1955. During his career he becomes ill, works part time, marries, divorces, marries again, gets 3 children, one of which dies, then his wife dies and he marries again and gets 2 more children....

World Wide Transaction System for an international Bank

A fish trade company in Japan makes a payment to a vendor on Iceland. It should have been a payment in Icelandic Kronur, but it was done in Yen instead. The error is discovered after 9 days and the payment is revised and corrected, however, the interest calculation (value dating)...

Pitfalls in end-to-end testing

- “That interface will also be tested in the end-to-end test, so we can skip that!”
- “Let’s not wait for that last component to be accepted: everybody is waiting!”
- Try to perform an end-to-end test without the proper management commitment

Recommendations

- Good external integration tests reduce the need to perform an E2E test!
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- Walkthrough's can be used to avoid the high cost of dynamic E2E testing!

Questions ?

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