

# Open Source Model-based Testing

A very short, *very fast* Overview

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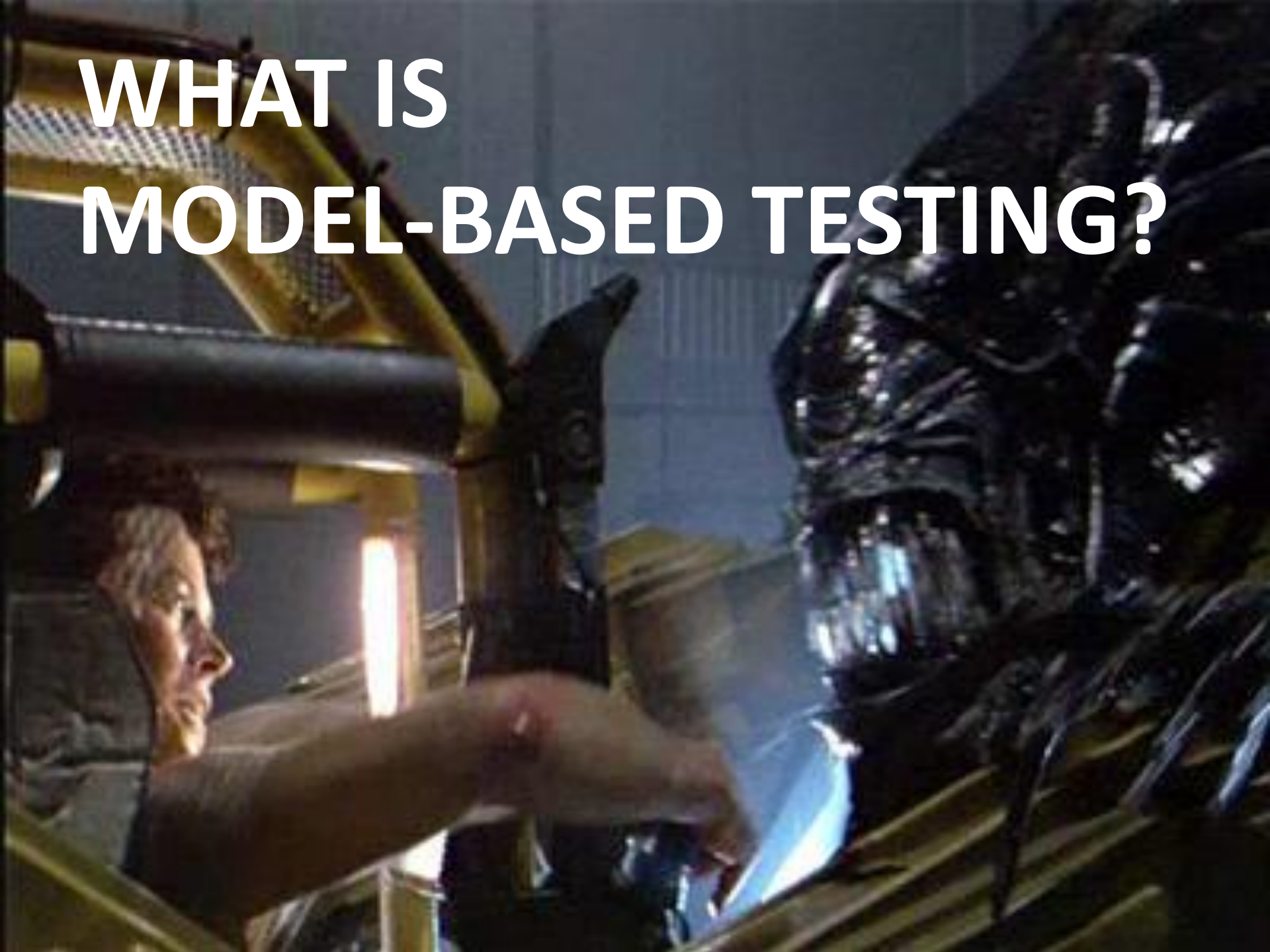
QUEST Open Source Panel

May 4, 2012

# Mobile App Testing Product

- Product
  - Embedded Tcl Interpreter
  - Tk GUI
  - GSOAP
  - MySQL
  - FreeBSD®
- Development
  - Subversion/Tortoise
  - Trac
  - Win Merge
  - CPP Unit
  - RoboDoc
- Operations
  - CentOS
  - Backula
  - Ipcop, OpenVPN, DDWRT
- Knowledgebase
  - IBM Omnifind
  - Scuttle
  - Tcl Wiki

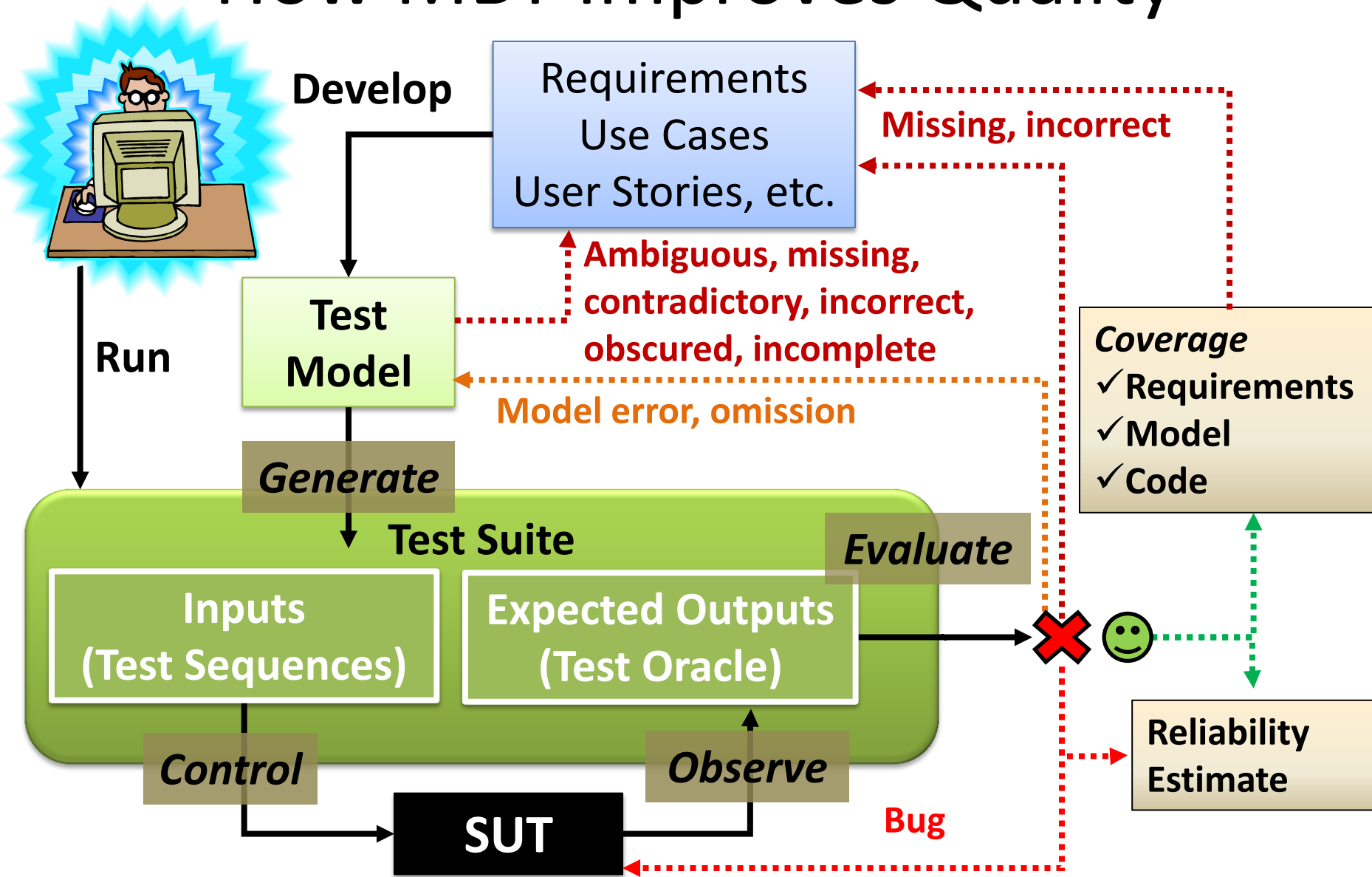
# WHAT IS MODEL-BASED TESTING?



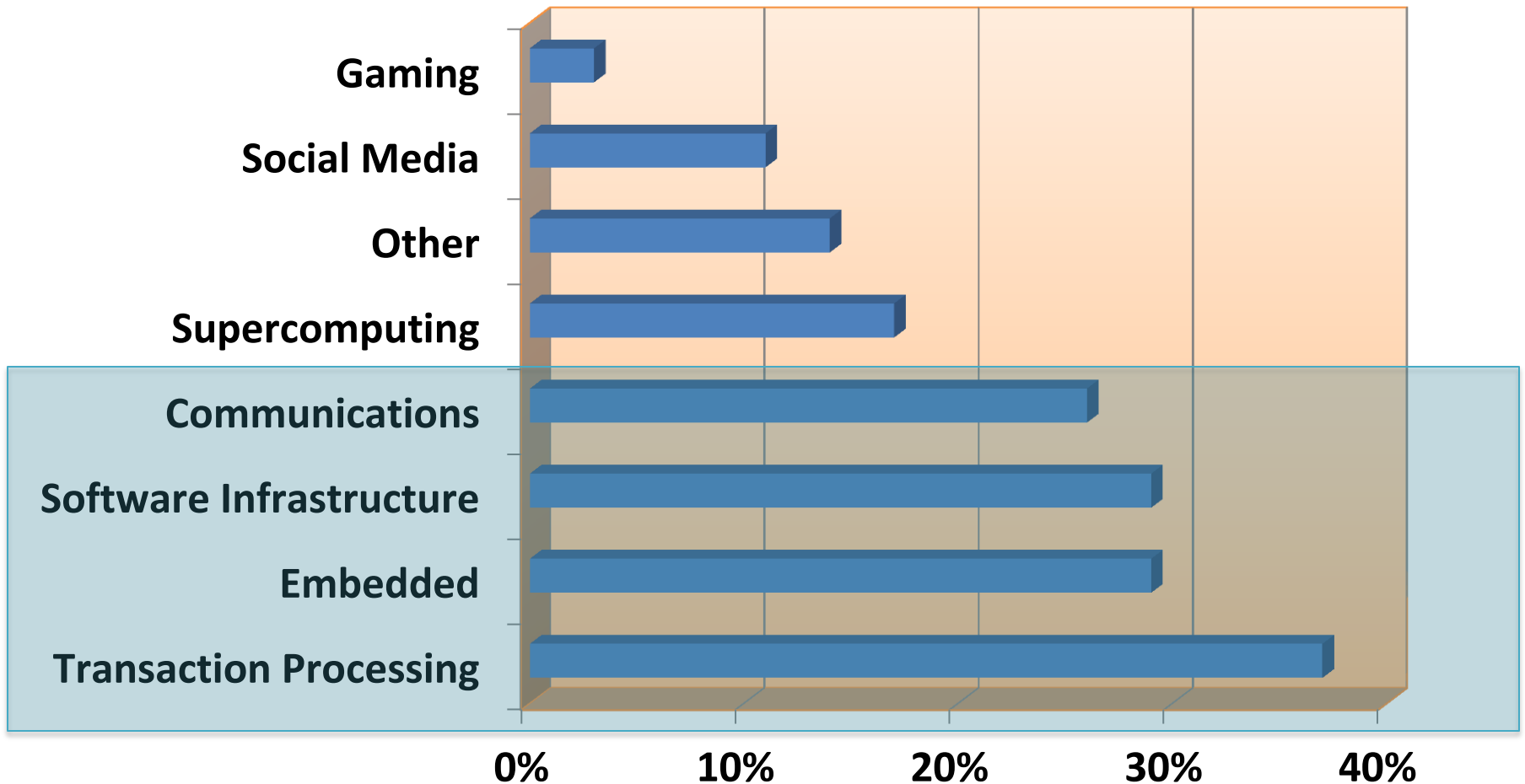
# *Automated Test Generation*

- Represent SUT aspects in a tool
  - *Test Model*
- Tool generates test suites
  - Test inputs *computed*
  - **Expected Results** *computed*
- Develop adapters for SUT interfaces

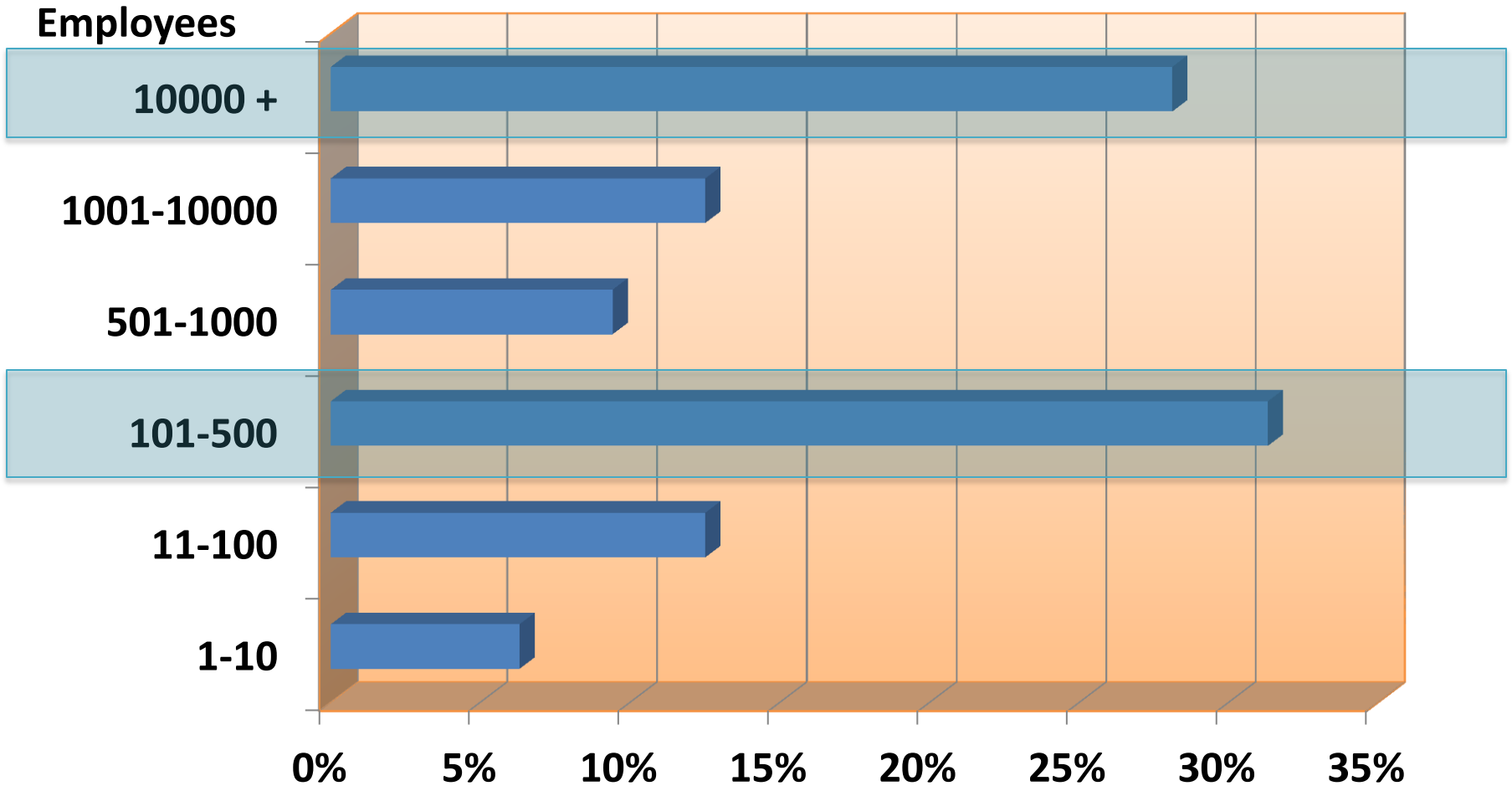
# How MBT Improves Quality



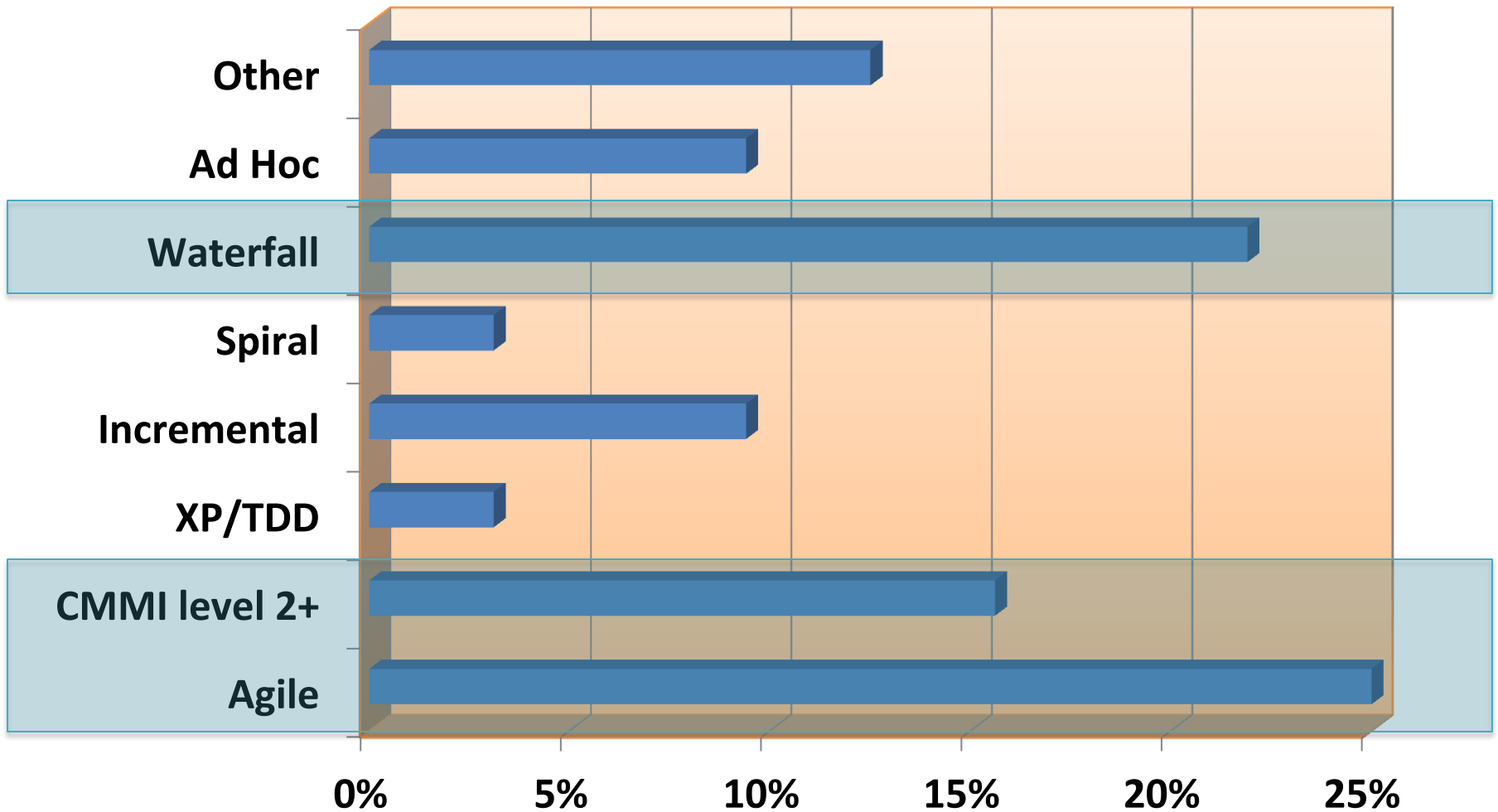
# *What apps are tested with MBT?*



# *What Companies use MBT?*



# *What kind of Software Process?*





# OPEN SOURCE MBT

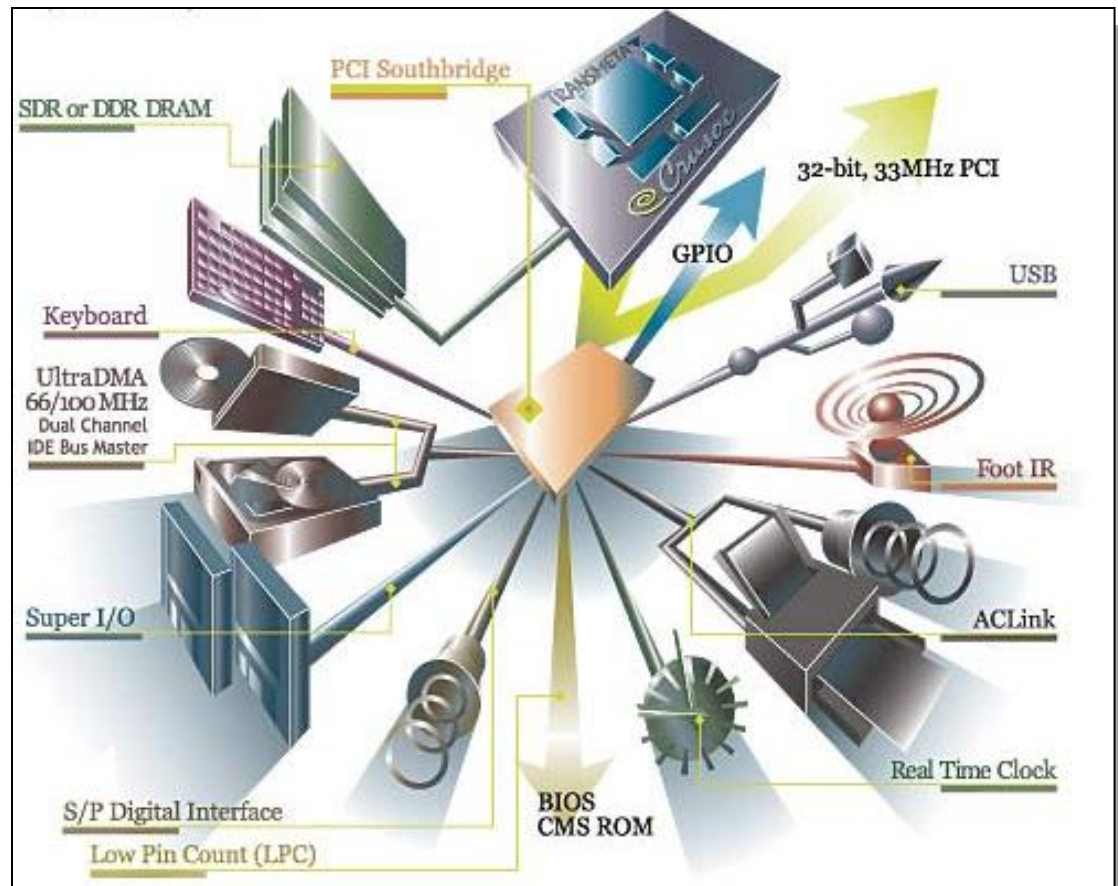


# Five Main Types Open MBT

- Binaries 4
- Fielded 2
- Club 3
- Beta 6
- Development 4

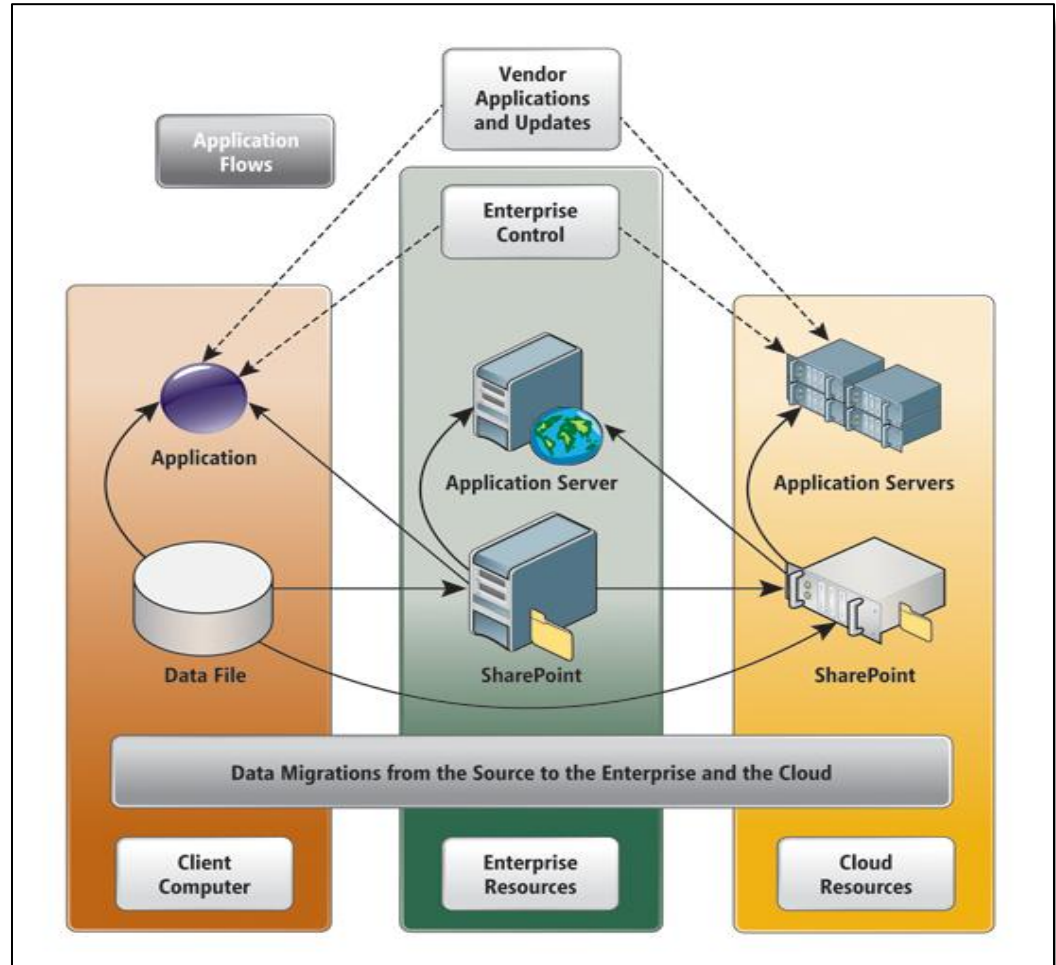
# Short List, RT Embedded

- JUMBL
  - Binary
- Spec Explorer
  - Binary
- TopCased
- IFX Omega



# Short List: GUI or API testing

- Spec Explorer  
– Binary
- NModel
- GraphWalker
- ModelJunit



# Image Credits

- *Aliens*. Cameron et al, 1986.
- MBT Workflow. Keith Stobie et al, 2010. Adapted with permission.
- Open Sign video. wwwBigWindows.com, 2011.
- Transmeta Crusoe Embedded System Development Kit for Windows CE .Net  
<http://www.geekzone.co.nz/content.asp?contentid=2099>
- *Cloud Security: Safely Sharing IT Solutions*. Microsoft Technet <http://technet.microsoft.com/en-us/magazine/gg296364.aspx>