

Complete Controllable Test Suites for Distributed Testing

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Entrada libre hasta completar el aforo

Resumen:

Some systems interact with their environment at several physically distributed interfaces/ports and when testing such a system it is normal to place a local tester at each port. This talk will focus on complete testing from a finite state machine (FSM). Classically, a test suite is m -complete for an FSM M if it distinguishes between M and all faulty FSMs with m states or fewer. While there are several algorithms that generate m -complete test suites, previous results show that there is no general method for generating an m -complete test suite for use in distributed testing. In addition to surveying the issues raised by distributed testing, this talk will look at the problem of generating what we call $c(m)$ -complete test suites: controllable test suites that distinguish an FSM N with no more than m states from M if this is possible in controllable testing. Thus, under the hypothesis that the system under test has no more than m states, a $c(m)$ -complete test suite achieves as much as is possible given the restriction that testing should be controllable.

Sobre Robert M. Hierons:

Rob Hierons received a BA in Mathematics (Trinity College, Cambridge), and a Ph.D. in Computer Science (Brunel University). He then joined the Department of Mathematical and Computing Sciences at Goldsmiths College, University of London, before returning to Brunel University in 2000. He was promoted to full Professor in 2003. Rob Hierons' main research largely concerns the automated generation of efficient, systematic test suites on the basis of program code, models or specifications. He also has a significant interest in program analysis and automated transformation techniques such as program slicing. He is joint Editor of the Journal of Software Testing, Verification, and Reliability (STVR). He has organised or been on the steering committee of several international conferences and workshops. He has published over 150 papers in international workshops, conferences and journals including in top journals such as SIAM Journal of Computing, IEEE Transactions on Computers, IEEE Transactions on Software Engineering, and ACM Transactions on Software Engineering and Methodology.