Title: An Integrated Test Environment For Distributed App

Subtitle: Software QA

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Summary: Software testing is an essential component in achieving softwa
very timeÿý consuming and tedious activity and accounts for over 30% of t
high cost, manual testing is unpopular and often inconsistently executed
environment that automates testing and analysis techniques is needed. T
statisticsÿý based integrated test environment (SITE) for testing distribute
two crucial issues in software testing, when to stop testing and how good
SITE provides automatic support for test execution, test development, te
measurement, test management and test planning. Keywords: Software Te
Statisticsÿý based Testing, Distributed Applications

Keywords: Software Test Environment, Statisticsÿý based Testing, Distribu

1 INTRODUCTION

Software testing is a very timeÿý consuming and tedious activity and there
process and accounts for over 30% of the cost of software system develo
its high cost, manual testing is unpopular and often inconsistently execu
quality required of software applications, a powerful environment that au
and analysis techniques is needed. Therefore, Software Testing Environm
deficiencies of manual testing through automating the test process and i
support a wide range of test capabilities [5]. The use of STE provides si
[11, 13]. Firstly, major productivity enhancements can be achieved by au
tool development and use. Secondly, errors made in testing activities ca
formalizing the methods used. Thirdly, defining testing processes secure
complete and more consistent testing than do humanÿý intensive, ad hoc t
automated testing improves the likelihood that results can be reliably re

The Statisticsÿý based Integration Test Environment (SITE) provides a tes
statistical testing which secures automated support for the testing proce
specification, statistical analysis, test data generation, test results insp
Testing of a distributed application is very complex because such a syste
and nonÿý deterministic. It adds another degree of difficulty to the analysi
Therefore, a systematic and effective test environment for the distribute
desirable. To address these problems, the SITE is developed on the Java
which provides Java Application Programming Interface (API) and Java to
distributed client/server applications. In Section 2 of this paper, an oper
testing distributed software is presented. A basic architecture of automa
introduced in Section 3. An overview of our approach is shown in the end
4, the architecture of SITE is described and the relation of the main com
comparison of STEs using the SAAM structure is discussed in Section 5.
research work.

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