A Framework for Distributed Component Test Certification Faci Conformity and Compliance Testing

Dr Sita Ramakrishnan
School of Computer Science and Software Engineering
Monash University, Australia
sitar@csse.monash.edu.au

Associate Professor Christine Mingins
School of Computer Science and Software
Monash University, Australia
cmingins@csse.monash.edu.au

Professor Jean – Marc Jezequel
IRISA, campus de Beaulieu, Rennes, France
jezequel@irisa.fr

Dr Ing. Andreas Ulrich
Siemens AG, Munich, Germany
Andreas.ulrich@mchp.siemens.de

A research and development facility is proposed for conformity and compliance testing and to bridge the gap between tes researchers and industry practitioners. This facility can provide advice in the form of individual consultancies and workshops on for compliance to interoperability standards, will directly benefit the competitiveness of such software developers in the interna [13].

Software is at the centre of modern, global information and communication infrastructures. A high degree of trust in the unde required to support the integrity of the infrastructure. Software trust is a quality concern. The suppliers and consumers of software trust that the software meets their requirements, is reliable, robust and complies with specified conformance requirements. Softwar to every aspect of information infrastructure protection [6,12]. Most software quality assessment techniques are qualitative and foc personnel assessment. Techniques and standards such as ISO 9000, Carnegie Mellon's capability maturity models (CMM) and Na Testing Authorities - NATA's ISO/IEC17025 cannot offer product assurance or certification, as they do not test the actual softw era of component-based distributed software systems, the key software testing research that is needed is the integration testing software systems. A focussed research initiative in software testing which deals with information integrity issues of reliability and proposed to address the development of quantitative product quality measures.

According to a study by the Gartner group, a research and consulting firm in the U.S., the market for pre-built components will g billion in 1997 to US$8 billion in 2002. Gartner predicts that at least 70% of new software applications will be assembl components by 2003[1]. The Component market is predicted to emerge as the dominant commodity software concept [3,4]. The V Enterprise Java Beans (EJB) are mature platforms that support enterprise scale component-based applications. Over the next cou new applications will be delivered onto one of these platforms, and in both cases, use of components is mandatory from a technica reality of distributed component platforms with multiple competing open and proprietary standards (.NET, Java, EJB, CORBA industry awareness that components are commodities and market-leading applications are the differentiators [3, 4].

Commercial-off-the-shelf (COTS) consumers should be able to test components for robustness and conformance to stand verification and validation techniques for testing the robustness of a COTS component is software fault injection [7]. However, s may not have access to the source code of COTS components, it is not usually possible to fix detected errors. By wrapping the and creating a barrier that disallows the component from incorrect and undesirable functionality is one way of ensuring trust in the This technique of using software robustness wrappers handles exceptions thrown by a component by returning specified error cod a priori to be handled robustly. We have recently implemented a prototype for a .NET component, which uses wrappers similar to [8

The notion of Trusted Components is gaining currency in the software industry [1,12]. A facility that can facilitate trust in softwa testing for conformance to a standard or against a client-supplier component testing model is important for business clients.

Five Key Questioned to be addressed by the Panel
· How to increase the competitiveness of SMEs w.r..t.software testing
· What is meant by conformance to a standard?
· Why is a conformance and compliance testing program the way to go?
· Design for testability of distributed component-based architectural models
· Consider certification criteria for conformance and compliance properties of components

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