Appendix-5


Web Service Oriented Architecture for Regression Testing of Distributed Embedded Systems

Dr. Sastry JKR¹, Prof. RajaSekhara Rao Kurra¹, Prof V. Chandra Prakash¹
Dr. P. Thrimurthy², Hima Bindu J¹, Sree Deepika S¹
Jkrsastry2002@yahoo.co.in, Krr_it@yahoo.co.in, vchnadrap@rediffmail.com, profpt@rediffmail.com
¹Koneru Lakshmaiah College of Engineering, Vaddeswaram, Guntur
²Acharya Nagarjuna Engineering College, Nagarjuna Nagar, Guntur

Abstract

Most of the Real-Time critical systems are distributed embedded systems with Non critical requirements centralized and non sharable and Critical requirements met locally within the embedded systems. At times the distribution of embedded systems is so heavy that the usage of the internet to connect the embedded systems becomes mandatory. Even, some of the embedded applications require the usage of Internet as a Backbone for realizing the distributed Embedded Applications itself.

Testing of Distributed Embedded Systems is a Complex Process. The conducting of regression testing of distributed systems is much more a complex process due to the need for a centralized repository. Till now, no accurate test process has been defined for performing regression testing of distributed embedded systems. However a few methods have been defined for regression testing of loaded systems, which include scenario based regression testing, incremental testing, Multi Level Testing etc. These methods are not suitable for conducting the Regression testing of distributed embedded systems.

WEB based architectures available these days provide for centralized services which can be exploited to build and operate distributed embedded systems. As such the requirement of undertaking WEB based Regression testing of the distributed Embedded Systems can be undertaken by way of exploiting the WEB services that deal with data resources. This idea requires convergence of Embedded Systems with Loaded Systems.

In this paper we propose a WEB Service Oriented Architecture and Scenario oriented Regression Testing method using which Regression testing of a Distributed Embedded System can be undertaken.