Building Test Cases through Model Driven Engineering

Helaine Sousa¹, Denivaldo Lopes¹, Zair Abdelouahab¹, Slimane Hammoudi², Daniela Barreiro Claro³

(¹) Federal University of Maranhão – UFMA, Brazil
(²) Ecole Supérieure de l’Ouest – ESEO, France
(³) Federal University of Bahia – UFBA, Brazil
{helaine.css, dlopes, zair}@dee.ufma.br, shammoudi@eseo.fr, dclaro@ufba.br

Abstract—Recently, Model Driven Engineering (MDE) has been proposed to make face to the complexity in the development, maintenance and evolution of large and distributed software systems. Model Driven Architecture (MDA) is an example of MDE. In this context, model transformations enable a large reuse of software systems through the transformation of a Platform Independent Model into a Platform Specific Model. Although source code can be generated from models, defects can be injected during the modeling or transformation process. In order to deliver software systems without defects that cause errors and fails, the source code must be submitted to test. In this paper, we present an approach that takes care of test in the whole software life cycle, i.e. it starts in the modeling level and finishes in the test of source code of software systems. We provide an example to illustrate our approach.

I. INTRODUCTION

Applied to inspect a specific software system. This metamodel for platform independent test provides support to functional test, unit-test and integration test. Another metamodel for platform specific test based on xUnit is provided.

This paper is structured in the following way. Section II provides an overview of the theoretical foundation about related subjects to this research. Section III describes our proposed approach for automatic generation of test cases. Section IV provides an illustrative example of our approach. Finally, section V provides a conclusion and future directions of our research work.

II. OVERVIEW

Before presenting our proposed solution for automatic