The University of York Department of Computer Science

Submitted in part fulfilment for the degree of MSc in Software Engineering.

Model-driven software migration between microprocessors

Sophie Wood

Version 0.1, 2018-May-11

Supervisor: Simos Gerasimou

Number of words = 0, as counted by `wc -w`.
This includes the body of the report, and Appendices TODO, but not TODO.

Abstract

TODO

Acknowledgements

TODO

Contents

1 Introduction

1.1 Background and Motivation

- Introduction to the problem of software obsolescence

Bartels et al. define obsolescence as "materials, parts, devices, software, services and processes that become non-procurable from their original manufacturer or supplier" [1]. Both software and hardware can be subject to obsolescence problems. In the case of software, there are three main causes of obsolescence [2]:

(1) Logistical: digital media obsolescence, formatting, or degradation limits or terminates access to software

(2) Functional: hardware, requirements, or other software changes to the system obsolete the functionality of the software

(3) Technological: the sales and/or support for commercial off the shelf (COTS) software terminates

In the past, strategies for obsolescence management have focused on hardware obsolescence problems. This is despite software obsolescence costs often equalling or exceeding that of hardware [2].

- Discussion of existing approaches and their shortcomings i.e. manual approach takes time/is costly
- Introduction to MDE
- Discussion of applicability of MDE to software obsolescence
- Introduction to specific microprocessor migration problem

1.2 Project Goals

TODO

1.3 Project Scope

TODO

1.4 Report Structure

TODO

2 Literature Review

3 Methodology

4 Requirements

5 Design and Implementation

6 Evaluation

7 Conclusion

Bibliography

[1] B. Bartels, U. Ermel, P. Sandborn and M. G. Pecht, *Strategies to the prediction, mitigation and management of product obsolescence*. John Wiley & Sons, 2012, vol. 87.

[2] P. Sandborn, 'Software obsolescence-complicating the part and technology obsolescence management problem', *Ieee transactions on components and packaging technologies*, vol. 30, no. 4, pp. 886–888, 2007.