AUTHOR'S DECLARATION

I declare that the work in this report was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as reference work. This report has not been submitted to any other academic institution on non-academic institution for any other degree of qualification.

In the event that my report be found to violate the conditions mentioned above, I voluntarily waive the right of conferment of my degree and degree to be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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ABSTRACT

Information is an important asset to an organization especially electronic information where it is easily exposed to attacks such as malicious software (software designed to illegally access a computer system without owners' authorization), computer hacking and denial of service attack. Therefore the security of the information shall be taken into consideration in order to keep preservation of confidentially, integrity and availability of information. The Information Security Management System (ISMS) is designed to ensure the adequate and proportionate security controls for an organization that protects information assets and give confidence to interested parties or customer. One of the security controls that JARING has implemented is Protection against Malicious and Mobile Code, so with that, the organization decided to have an endpoint security software called Panda Cloud Office Protection (PCOP) installed; to keep their information safe from malware attack. However, one of the ISMS requirements is to assess the control that the organization has implemented; in this case, to measure the effectiveness of PCOP. Since the Organization have not establish a suitable method for measurement, therefore, this study helped to design a security metric based on ISO/IEC 27004:2009, which is used to measure the effectiveness of PCOP. The research instrument used in this study is the security metrics which containing of metric or unit of measurement. The study used PivotTable as a tool to analyze the data. The measuring process involves all computers and workstations under JARING. Indicator interpretation from measurement result indicated that PCOP managed to protect from the malwares attack effectively, and this result showed that PCOP is the right endpoint security software for the organization. This study contributes a security metric which ISEQ-G (a department that manages in terms of information security) and EIS (a department that manages enterprise system) team can benefit from.

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These are the words that my mother has shared with me and these words have always kept me going: Determination overcomes all difficulties.

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TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter is a comprehensive introduction to the study, which includes project background, problems, objectives, scope of the study, project methodology, significance of the study and conclusion. The starch contents in this chapter generally explain of the endpoint security software used in the Organization, which is referred in this study as "the Organisation". This chapter is aimed at illustrating the overall view of the study.

1.2 Project Background

Information is an asset that is important to an organization. Just like any other important business assets, information is essential to organization's business especially electronic information whereby it is easily exposed to malicious code, computer hacking and denial of service attack. In order to ensure the business continuity and minimize the business from risk while increasing business's return of investment and opportunities, a consistent security protection for electronic information shall be in place and established.

The Organization has been awarded the ISO/IEC 27001:2005 Information Security Management System (ISMS) certification from SIRIM QAS International on 20th July 2011 in three scopes of areas, Internet Data Centre (IDC), Virtual Private