Universiti Teknologi MARA

Centralized Server Monitoring Implementation Using Zabbix For System Administrator Access Network Management (ANM) Telekom Malaysia Berhad

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ABSTARCT

Readiness Element Management System (EMS) to monitor access network is critical to TM business. To meet this need the centralized system is needed to monitor the set of servers that have run in various platforms. The latest direction the company want existing workforce can be optimized based on the current business situation. This situation has forced the management of the company to reduce the number of employees in certain parts and lead to labor shortages and the increasing number of systems that need to be taken care of them.

This project has been implemented to meet the needs of a System Administrator Telekom Malaysia (TM) representing the administrator to access network systems in Telekom Malaysia (TM). The aim is to lighten the burden on the operator of the system in matters related to the administration systems with a variety of technologies and applications.

This project use Zabbix platform is an open source system that is easy to use and does not require high costs for implementation. This has been of interest to me to use Zabbix in implementing a centralized system for monitoring systems that are in inventory TM especially involving access network.

With the completion of this project System Administrator will receive an early warning about the state the server via email processed by Zabbix server. Therefore it can help System Administrators to reduce downtime due to hardware damage, system intrusion and other conditions that can cause a system that does not function properly.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Network Operations Centre (NOC) is the key custodian to the core network of Telekom Malaysia Berhad. Towards service-oriented organization, this division promises to accomplished with quality, both in network and workforce. NOC ensure 99.95% network availability with high resiliency in providing services to their customers. Restoring network services as fast as possible with their highly competent workforce and keep their customer informed and updated throughout the restoration process. NOC persevere and prevail to challenges, drive the transformation, realize the vision and aspirations of TM.

NOC consists various departments that have responsibility to carry task of network operation nationwide. The key department on this organization is Access Network Management (ANM) that oversees the access network element in broadband segment. This department responsible to oversee the fault, configuration, performance, maintenance and system administration of the 40,000 network element connected to NMS system for the various type of network element such Digital Subscriber Line Access Multiplexer (DSLAM), Multi-service Access Node (MSAN), Gigabit-capable Passive Optical Networks (GPON), Access Synchronous Digital Hierarchy (SDH) . This network elements scattered nationwide. This network elements technology is separated by different manufacturer and consists of difference Network Management System (NMS) system.

To manage the system, the special unit in ANM responsible to manage various NMS server to cater departmental function. The unit called System Administration ANM carries out task about server maintenance, system security and NMS system availability. For maintenance work, system admin have to oversee the hardware and software of server in good condition in