

UNIVERSITI TEKNOLOGI MARA

**WAN INTEGRATION IN TERM OF NETWORK AND
SECURITY ANALYSIS**

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Abstract

Consuming separate, single-purpose networks for data, management, and storage can be costly and more complex than required for IT organizations or infrastructure deployments. An integrated and seamless services for a government agencies have been proposed in order to maximize resources for three different departments, namely HELPDESK, E-COM and FINANCE which currently operating with different services. In this case, it is complex to manage the network link because of different policy. In terms of financial issues, billing is separated for each link. For technical issues, it required different hardware for different services like router, Metro-e switch and cabling. Besides that, for monitoring issues it is difficult to manage visibility. For security issues, currently they did not install firewall to detect any suspicious IP by internal user. The main goal of this project is to propose for a consolidation of current infrastructure into a single network and to compare multiple networks with single network. This research has proposed IP scheme, installing of firewall at branch that can converge three multiple network into a single network and study WAN/ LAN setup at HQ. In this project, we have simplified network architecture, improved network performance, analyzed the network traffic and retightened the security by using firewall, and enhance data communication. The result showed that, the objectives have been match. Consolidate using firewall is the most suitable ideas. The firewall has been successfully used to integrate the network and it is also useful to prevent an attacker to attack from internal or external.

CHAPTER 1

INTRODUCTION

This chapter provides an overview of this project including problem statements, objectives, scope, limitations and significance of the project.

1.0 Background of Study

“Convergence is a process by which communication networks and their services are transformed such that different network platforms carry a similar range of voice, audiovisual and data transmission services; different consumer appliances receive a similar range of service; and new services are being created” (OECD Working Party on Telecommunication and Information Services Policy, 2004).

According to M. J. Arif and S.Karunasekera, internet has been designed to support the review of data traffic. Though, as the need for different applications like voice and video grew, there was a compelling need to upgrade the Internet. As a result, the community took the challenge to make the Internet behave more like a telephony network yet retain its characteristics to support data. The outcome is an improved Internet where data, voice and video coexist. This merging has been achieved by introducing new protocols for the voice and video architecture on the Internet which is broadly known as VoIP.

Network convergence refers to the establishment of telephone, video and data communication services within a single network. In other meaning, one pipe is used to carry all forms of communication services. The process of network convergence is primarily driven by development of technology and demand. One main goal of such