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Network Design To Improve Network Quality At Pt. Batam Teknologi Gas

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Abstract

Network security is currently a very important issue and continues to grow. Development of computer technology, besides causing many benefits also have many bad side. One of them is an attack on computer systems connected to the Internet. As a result of the attack, many computer systems or networks disrupted even be damaged. Given these problems, then as soon as possible we must immediately secure computer networks from attack. Untangle is a Linux distribution that is used as a regulator of tissue. Untangle is an open source first terintegerasi to deal with spam, spyware, viruses, adware, web-filtering and report. Based on Debian Linux with supporting JAVA applications. Untangle Server delivers the ease in securing, controlling and monitoring of computer networks. Ease is a technology that is needed to secure from threats such as viruses and spyware, web access and control over the availability of the report of the Untangle Server to perform a system analysis. Everything is packaged within an interface / GUI (Graphical User Interface). Untangle is very handy and has a full feature in managing and securing the network from LAN to WAN scale.

Keywords: *Network Security, Packet Filtering Firewall, Untangl*

Introduction

PT. Batam Teknologi Gas is one of the large companies active in the production of gas and liquid which are distributed to various companies in Batam. PT. Batam Teknologi Gas is an ISO 9001 certified industrial gas provider which started in 1996 under the name PT. Batam Tata Indah Gas. In November 2004, restructuring was initiated to improve product and service quality with the aim of exceeding customer satisfaction. To highlight this new step, the company has since changed its name to Batam Teknologi Gas. Strategically located in Tanjung Uncang where the shipping and offshore industries are concentrated, products and services to support the offshore industry, shipbuilding and ship repair, steel fabrication and piping construction companies as well as workshops and other related businesses. The

proximity of Batam Teknologi Gas' operating base is to ensure timely delivery of goods at the customer's doorstep and fast response to inquiries and requests.

Research Method

So far, PT. Batam Teknologi Gas already has adequate components to facilitate the needs of employees and staff at the company in terms of technology, especially internet networks. However, the provision of these facilities is considered unsatisfactory, even less than the standard word for international companies such as PT. Batam Gas Technology.

Talking about internet networks, we need to know the extent to which information technology has developed, especially in the field of internet networks. In today's era, we are familiar with the Internet of Things (IoT) that describes the network of physical objects that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet (Villamil et al., 2020).

We go through various stages in order to get the best and satisfying results from clients, especially employees and staff at PT. Batam Gas Technology. We made improvements to network components such as Switches, Routers and Access Points which were far more advanced than previous components. We also configure the network path from the router, configure the distribution of ip addresses to be distributed to all network devices such as PCs and Access Points until finally the satisfaction of surfing the internet can be felt by clients.

Discussion

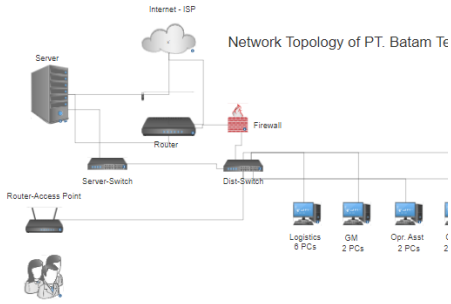
Here we do an initial illustration by making observations and surveys to the location of PT. Batam Gas Technology.

PT. Batam Teknologi Gas has a structured network topology so that the network and internet connection that is owned can spread to all users in the company, including the mess in the PT. If detailed, PT. Batam Teknologi Gas has 1 Router, 1 Server and 13 PCs consisting of 6 PCs in the Logistics Department, 2 PCs for the General Manager, 1 PC in the Laboratory, 2 PCs belonging to the Operational Assistant, and 2 PCs belonging to Clerk. However, here PT. Batam Teknologi Gas has an inadequate network topology for a large PT such as PT. Batam Gas Technology. We need to make improvements in the network sector so that the internet connection and network at the PT are more stable and orderly. We also need to share the internet connection from each department so that it can be tidier and the troubleshooting process will be easier if one day we find a problem with the company.

So from there we already have an initial picture of the improvements we will apply to the company. We simulated the data we got from PT. Batam Teknologi Gas uses Cisco Packet Tracer to make it easier for us to configure and map the network structure there. We also obtained several alternative routes that can make the process of network separation by department easier using VLANs.

We create different VLANs according to the number of departments, each department has one VLAN and each has a different IP network. Each VLAN is assigned an

IP via a router, and distributed via a switch to each department.



Conclusions

The system is formed from a network topology that has been configured to form a topology map that is much neater, and is very helpful in the troubleshooting process if problems are found in the network. In addition, an optimal firewall protection system is also formed that can provide security assistance. So from this study found results in the form of increased network components, neater topological mapping and a more feasible cybersecurity system.

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