**Analysis and Design of Computer Network in a Petshop**

**Group members:**

Reza Aurelio Brilliasah - 21/475039/PA/20515

Ahmad Fadhil Bukhori - 21/475083/PA/20525

Muhammad Zaky Firdaus **-** 21/477171/PA/20637

### **Problem**

An Indonesian Petshop has recently gone through a store expansion and has bought several computers and devices. However, there are still some troubles in connecting them with a computer network.

### **Introduction**

A computer network is a system that connects two or more computing devices for transmitting and sharing information. One example of a computer network is LAN. LAN is a connection of a group of devices in a local area (Cisco, 2018). Computing devices include everything from a mobile phone to a server. These devices are connected using physical wires such as fiber optics, but they can also be wireless. Many devices also need to be connected to form a Computer Network, such as routers, switches, and also servers. Those devices are needed to implement a LAN for businesses. This problem poses a challenge for SMEs such as our Pet Shop enterprise.

The purpose of this project is to design a suitable computer network system for the Pet Shop store. The aim is to design a network with low cost, high quality, and scalable computer network that meets the business grade standard. It is important for shops to implement networking computers because it increases the efficiency of the store. For example, it allows the store to have remote access to shared resources such as printers, fax machines, scanners, among others. This gives employees a more organized and convenient way to access the resources. In addition, LAN also enables centralized real-time data management, allowing computers connected to the network to have access to shared files, databases, spreadsheets, and software (Cisco, 2018). Attention is also paid to network security systems by applying firewall security within the network to provide security to Business’ data.

The Petshop already has several devices which need to be connected to the network. These devices include cashier registers, receipt printers for each register, self-scan barcode price scanners, several computers, a wireless router, as well as ID card readers.

Keyword: computer network, business grade, firewall

### **Objectives**

This research aims to create a computer network of client-to-peer LAN that will be able to solve the Pet Shop’s connectivity problem within its store. The computer network should meet the standard of creating a high quality but low cost and a secure system to prevent any unfavorable access. Star topology will be implemented with TCP/IP Routed Protocol. The network will consist of link cable, file server, switch, network printer, workstation, and router.

**Reference**

[1] Cisco. “What is Local Area Network.” https://www.cisco.com/c/en/us/products/switches/what-is-a-lan-local-area-network.html#~types [accessed August 31, 2022]