Basic Lan Network Design in the company

Handry Saputra*1,
1Universitas Putra Indonesia YPTK Padang
e-mail: *1handrysaputra34@gmail.com,

Abstrak

Computer network is a technology that is highly developed these days. This technology connects one computer to another, both in one area and in another area and even in another country. cv.xxx is a company where the position is in one location with space consisting of several buildings. the office is still not connected to the network, even though network needs have begun to be needed. The implementation methodology is carried out by observation, analysis, network design and network implementation in the office. To connect one computer to another computer using a LAN, supporting network equipment is needed, including: network cards, UTP cables, computers, and switches. The computer network that was carried out at the community service this time was using a cable. The result of the implementation of this research is the formation of computer network installations in offices in two different buildings in cv.xxx.

Keyword : Lan, Building, Computer Networks

INTRODUCTION

The development of information technology at this time continue to evolve in line with human needs who want convenience, speed and accuracy in obtaining information. By therefore advances in information technology must continue work on and improve quality and quantity. One of the technological advances information in the field of data transmission at this point is the use of wireless LAN.

Wireless device LAN allows para link information users. Basically a wireless LAN such as a LAN network by using wired, only wireless LAN is not used cable and allows users to interact connected even when mobile (moving) so wireless LAN is expected provide user convenience. One of examples of wireless applications that we often encounter is the use of a television antenna that use an antenna to catch waves broadcast.

Wireless LAN requirements in Cv.xxx very important, because in the process of moving data must be processed quickly. For example, in the design process, designers are required to find design materials as quickly as possible, arrange designs and share the results. form. Usually designers use tools USB in distributing design results He did. Then in the printing process, machine operators use USB media to Enter the design data into the machine.

Enter risk virus into the machine's operating system, can not be denied is a problem that must always be faced. method this seems very slow, deprecated, high risk and requires additional equipment namely USB. Based on the description above, the writer feels need to develop a wireless LAN with use access point to build hotspot the

area around the CV.xxx Bengkulu office. With this hotspot can make it easier employees exchange data with each other as well as for access the internet, so employees can do their job faster, more accurately and easy, then the writer took the title of the research on "Building a Wireless Local Area Network Network at Cv.xxx.

RESEARCH METHODS

Method of collecting data Research is essentially a scientific activity acquire true knowledge about something problem. The data obtained in this study are do it in the following way:
1) Observation: namely data collection techniques by using a computer at CV. xxx is associated with that title designated and pay attention to the condition and form building for design purposes.
2) Library: the author collects data by reading, surfing the internet and related book records learn C) Network Design Methods A. Real Network Analysis: LAN Network is in CV. xxx is always a LAN network standard from PT. Telkom namely by using ADSL modem as one existing hub/switch on a LAN network. b. New Network Analytics: With more technological advances and business competition A more restrictive Cv.xxx should be changed and grow again. One of those changes The point is to build a network wireless local area network (WLAN) at Cv.xxx.

RESULTS AND DISCUSSION

The development of computer networks for education such as philosophy, technology, science, and art which are interconnected and intersect in various disciplines. On the other hand, technology makes changes in the learning process. In a rapidly changing process, technology plays an important role in classroom learning scenarios. Technological developments have an impact on:
1. Tools are developed in a classroom environment.
2. Curriculum development.
3. Rapid infrastructure development.

The development of tools, laptops, internet, smart phones, multimedia and the web involves many educators in maintaining the pace of their development. The initial concept of computer networks is the occurrence of data communication that connects one computer to another computer. At first the connection was only point to point or two connected computers. The rapid development of hardware and software has also driven the development of network communications. What was originally just an exchange of 2 computers turned into a computer network.

The concept of a network is different from data communication where several computers are interconnected and exchange data. Initially, computer networks used coaxial cables and their use is increasing UTP cable. Coaxial cable speed is 10 Mbps and UTP 10 baseT and UTP 100 baseT reach 100Mbps. And the situation now has reached 1Gbps. Data transmission is also growing very fast marked by the use of optical fiber, where the speed of data transfer is much faster than using cables.

The use of cables requires infrastructure and adjustments in installation in buildings. In overcoming the problem of installing installations in buildings that require cables, a solution has been found by using air as a transmission medium and sending data using waves. By using air, there is no need to connect using cables. The network connection is connecting to a wireless network device. Another problem is that changing the infrastructure from a wireless network to a wireless network will definitely cost a lot too.

In addition, wireless devices only have a maximum speed of 11 Mbps. It still causes slow connection. An access point is required to wirelessly connect wired network devices. It could be more efficient. The same goes for the Birrul Walidain educational foundation The Birrul Walidain Education Foundation has 3 laboratories with 20 computers each. The laboratory at the Birrul Waaladain Education Foundation is still not connected. Still a standalone computer. The lab is still conventionally used for MS-Office practicum, and learning to type and write papers.

WLAN network allows computers to computer at CV. xxx related to each other, also connected to more networks wide. Mikrotik as a server, will displays each current user network, as shown in Figure 1.

Figure 1. Users on Mikrotik

The firewall in Cv.xxx is built for the network LAN can be protected from hacker attacks and network can be used properly. Decision The firewall settings are as follows:

Figure 2. Firewall display

Testing was carried out on two existing firewalls made, the first test is against the site which is prohibited. Testing is done directly on browser on the connected PC client network. An example of the firewall test results is shown in the diagram above.

Testing is done using torch service found in the proxy RB750GL. Real time traffic monitoring is used for monitor the traffic passing through the interface based on protocol, source, and destination and port. As in Figure 3.
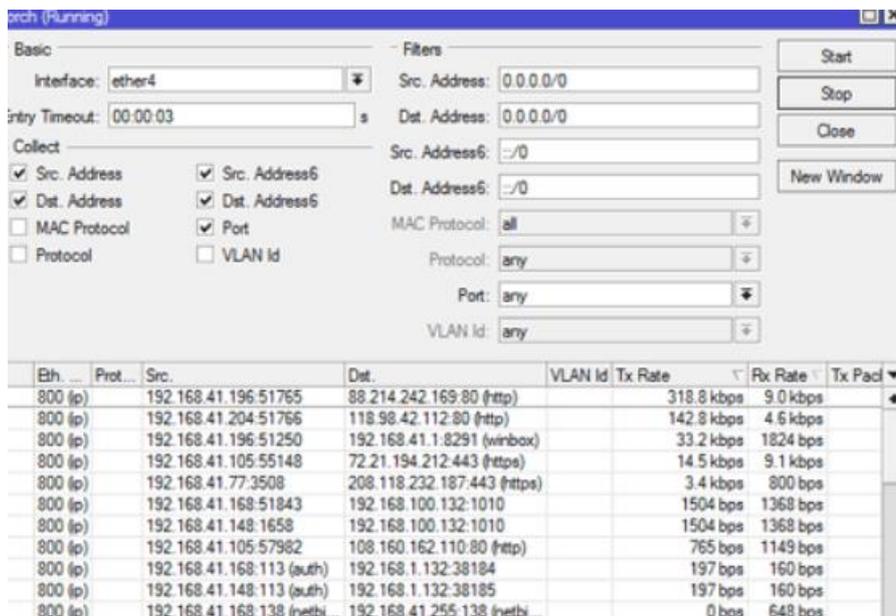

Fig.3 torch

CONCLUSION

Based on the results of the description that has been discussed about building a network The main advantage of a LAN network is much better level of flexibility. The disadvantage of a LAN network is the presence of radio interference by walls and the user's distance from the Access Point. network and facilitate development or Add user.

SUGGESTION

Based on the results of the description that has been discussed about building a LAN Network. Better if tools are used is a product of a single vendor, because in some cases differences in product vendors can be a hindrance. Default SSID, IP address and password vendors must be changed so that network security is guaranteed. If extra security is needed, you can activated on the access point.

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