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Desain VLAN for the Management of IP Address of SMK N 1 Lempuing of Regency OKI

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Abstract

SMK N 1 Lempuing represent the institution of education of School of Upstairs Continuation (SLTA) having three vocational, Technique of Computer Network (TKJ), Accountancy (AK), and Light Technique Kendaraan (TKR). Requirement in computer network very high in sharing and information seeking. Others requirement for the management of network very needed to to improve the network performance. This research, writer apply the technology of network VLAN (virtual local of area network) in memdesain of computer network of SMK N 1 Lempuing to increase kenerja in data communications. VLAN represent a/n mechanism which can be used for the segmentation of network in equipments of router and switch. Adjusment of technology by VLAN this will be more be effective because easier for the management of network. Researcher in this pemdesainan VLAN is pengunakan of simulation of Packet Tracer 5.0. [Through/ passing] way of this network equipments of exist in SMK N 1 Lempuing earn the dioptimasi to support the network performance.

Keywords : *Computer Network, VLAN, Packet Tracer 5.0*

1 INTRODUCTION

Technological progress of network in Indonesia at the moment experience of the growth very fast. Network technology require the high speed in information stream among other things server by client, server by server is other and client by client is other. To reach the good target at the network hence dibutukan of good infrastructure.

Vocational High School Country 1 Lempuing represent the Vocational High School consisted of vocational of TKJ , AK, and TKR. Vocational High School of Country 1 Lempuing financed by by fund APBD (Revenue Plan And Area Expense). In the year 2008 standing Vocational High School of Country 1 Lempuing which have address to in Countryside of Sindang Sari, Subdistrict of Lempuing of Regency of Ogan Komering Ilir.

These Days, Vocational High School of Country 1 Lempuing not yet applied the virtual local area network (VLAN) in arrangement of IP Address. At The Moment Vocational High School of Country 1 Lempuing, at network LAN not yet there is subdividing host, not yet

Figure 1: DHCP of Group VLAN 2

there is demarcation access the network and only use the IP address private that is class C, so that range IP address can be guessed easily and all aktifitas computer (host) in network earn in peeping. This situation result the Vocational middle condition At school less be maximal in its network processing and reputation of Vocational cause inefisiensi High School, what is at its[his] practical tataran result the koneksi is often broken and lower the penetrating nya of Vocational TIK High School of Country 1 Lempuing.

VLAN (Virtual Local Area Network) representing an[n network to overcome some difficulty which cannot be finished by traditional local area network. Virtual Local of area network earn the mengelompokan beberapa host which be at the different building or place become one group, for example teacher group, group TU, pupil group, and others, (Iwan, 2009 : 126). Virtual Local of area network also applicable to limit to access the network. This matter to make the infrastructure network in SMK N 1 Lempuing become the jarimgan which can water down and quicken the data communications.

Pursuant to above description become the main problems require to the existence of development of network of virtual local of area network. the Virtual Local area network to assist in watering down and quickening to access the interkoneksi, so that be time used to do the work more effective and efesien. From the clarification, hence writer of infrastructure mendesain network of VLAN with the Title "Desain VLAN for the Management of IP Address OF SMK N 1 Lempuing of Regency OKI".

2 RESEARCH METHODOLOGY

2.1 Data Collecting Method

To get the picture of concerning data at SMK N 1 Lempuing required in research, hence method of data collecting used shall be as follows :

1. Observation method
2. Method interview the
3. Documentation method

4. Method evaluate boo...

3 RESULTS AND DI CUSSION

3.1 System Develop nt Method

Method of Developmen ystem represent the phase used in research to do the desain VLAN (virtual local area n work) for the management of Internet Protocol Address of at SMK N 1 Lempuing of Re cy of Ogan Komering Strop, for the purpose of so that this research can be reached be . As for phase of method of development system used shall be as follows

1. Analyse Network.

   Analyse the network ne to know the problem and weakness to system of computer network of exist in SM N 1 Lempuing of Regency of Ogan Komering Strop. At holding up this researcher w do the obsevasi that is direct vision of system of computer network of at SMK 1 Lempuing of Regency of Ogan Komering Strop and do the interview to ask the nstraints of any kind of which deal with service or work the computer network f l by user and administration of exist in curvature work the SMK N 1 Lempuing Regency of Ogan Komering Ilir.

2. Desain VLAN (virtu ocal area network).

   Pendesainan VLAN n resent to hold up how to divide the computer network of exist in SMK N 1 Lempu of Regency of Ogan Komering Strop to become the certain group by combining v ious class of IP address to each different group as according to unit work the user, i rmation system used in this case is rights demarcation access to computer server, d also do the arrangement to router so that address can be done dynamicly with fox of topology of network physical which there have. In this research is researcher the aid of application program of Microsoft Visio 2007 for the pendesainan of netw of VLAN and IP Calculator to calculate the network address, broadcast address, su net mask, ip range of pursuant to computer amount to each group VLAN.

3. Examination VLAN rtual local area network).

   After finishing to do e pendesainan hence step hereinafter is examination. In this examination phase is r searcher use a[n application program of network simulation that is Packet Tracer 5.0 the simulation of koneksi usher the network VLAN by doing ping tehadap of all c puter (host) of exist in in network (network) to know what all computer have terko si or not yet.

4. Documentation.

   At this phase is resea er will pour the result from all above step into making report or document.

3.2 Testing

1. Examination of Resu Of Configuraton VLAN (Virtual Local Area Network).

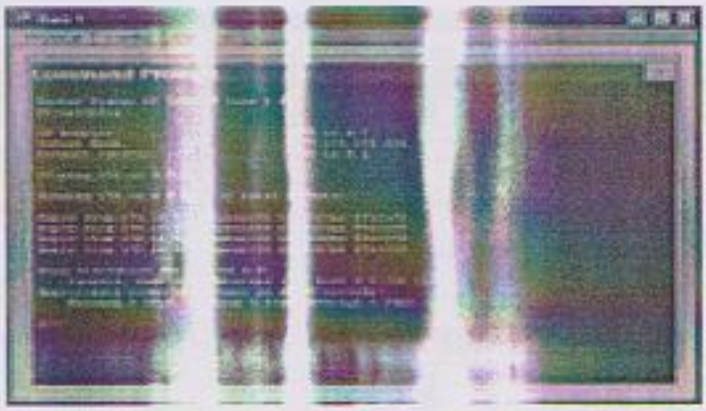

Figure 2: Result [illegible] pat host teacher

As for step in examinati[illegible] [illegible]AN for the network of SMK N 1 Lempuing shall be as follo[illegible] s DHCP. Show in Figure 1.

2. Examination of Koneksi [illegible] twork).Test conection from result of examination VLAN d[illegible] This application can be accessed from command prompt o[illegible] ncircuit to network.

   (a) Test the koneksi int[illegible] al switch. host learn by host is teacher, second of t[illegible] me group VLAN that is VLAN 4 and stay in one [illegible] is switch residing in in teacher column. Show in F[illegible]

   (b) Test the koneksi u[illegible] eripheral switch. Host learn by host is TU, second [illegible] VLAN, host teacher merged into by group VLAN 4 [illegible] of group VLAN 5 and also stay in the different net[illegible] r be at the peripheral of switch teacher residing in [illegible] e at the peripheral of switch TU residing in space T[illegible]

   (c) Test the koneksi us[illegible] ilding. Host TU by host is Lab, second of this host [illegible] roup VLAN that is VLAN 2 and VLAN 5 and stay [illegible] vitch and also different building location also.

3. Rights demarcation acc[illegible] demarcation access done by configuraton of peripheral [illegible] uthentication system that is by using user and password [illegible] ation of exist in server. Become although all host of exist [illegible] nect, with all existing computer server, but to can to us[illegible] erver, the user have to own the username and password [illegible] by one same group VLAN by server.

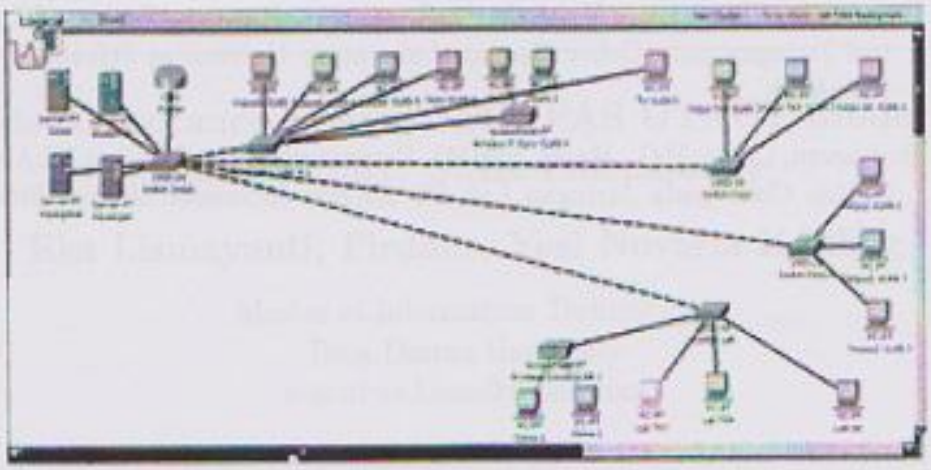

Figure 3: Simulation of VLAN SMK N 1 Lempuing

4 CONCLUSION

As for conclusion which can be taken away from by this research shall be as follows

1. With the network VLAN of at SMK N 1 Lempuing hence divisible network become some group of sacara virtual and combine some class IP address to each group, configuraton of peripheral router so that all host residing in in network can communicate with the goodness although differ the group VLAN, and most importantly is rights demarcation access to application which is there are in server, access is only permitted for the host of different and server in same group.

2. With the this network VLAN is SMK N 1 Lempuing can improve the control to broadcast domain so that can lessen the density traffic of at path of data transmission so that can improve the network performance 3. In SMK N 1 Lempuing with the network VLAN hence computer network earn the dikelompokan become 4 (empat) kelomok-VLAN for example VLAN 2 (tudent), VLAN 3 (akademik) VLAN

3. (Officer) and VLAN 4 (finance), as according to unit work the, application used by combining various class IP address and also the mengkoneksikan network so that can improve the network security by configuraton of peripheral switch without fox of network topology in physical 4. Communications usher the VLAN and also address dynamicly (DHCP) can be done with the configuraton a peripheral router

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