ISSN 2086-0927

STMIK-STBA NUSA MANDIRI

UNIVERSITAS BSI BANDUNG

千葉大学 Chiba University

BINA SARANA INFORMATIKA

ISIT 2009

Proceedings

International Seminar Information Technology (ISIT) 2009

IT FOR PRIDE AND WEALTH OF NATION

November 25th, 2009

Lumire Hotel and Pascasarjana STMIK Nusa Mandiri Building/Menara Salemba

APTIKOM

OPERA software

Majalah Remaja PESONA muda

PREFACE

International Seminar on Information Technology (ISIT 2009) is a scientific meeting in the information technology (IT) is the International level, where inside there are the researchers and practitioners who can show the results of their latest research as well as discuss current issues in IT. This seminar is also a gathering place of ideas of thinkers who might be thinking that is pure and applied. Some researchers who will show results of their research from leading universities in Indonesia and neighboring countries Japan and Sweden.

Collection of papers packed in the form of proceeding, and grouped according to the study area include Soft Computing, Software Engineering, Data Mining and Data Warehouse, Governance IT and IT Management, Data Communications and Computer Networking, Computer Based Learning and Control System.

The paper received from all over Indonesia and neighboring countries Japan and Sweden. The paper published in 2009 this gum has through the stages of evaluation by the reviewers, reviewers who are competent in their fields. Committee congratulate and thank you for participation and papers in the Proceedings contain gum is 2009. The committee also like to thank all stakeholders who have supported and active in participation success of this international seminar.

Suggestions and criticisms in order to perfection isit Proceeding 2009 is expected. Proceeding Hopefully this can be used as a reference in the development and improvement of learning technologies in the field of Information Technology and its applications.

Jakarta, November 25th, 2009
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THE ANALYSIS INDICATED THE WIRELESS ACCES POINT WORK

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ABSTRACT

In the development of the computer network technology, The infrastructure wireless became dominant. One of the main wireless component In the frequency 2,4GHz is wireless Access Point (WAP). So as the WAP election is to become very important So that in accordance with the capacity that is needed. In this paper will see the distribution capacity of energy, Backpland and the number client that could be given to one wireless acces point. Carried out as the illustration of the test against two products popular in Indoensia.

Keywords

Indicate the work, wifi, wireless acces point.

1. INTRODUCTION

Technically network access, From the Development network of the computer Created various networks Used the cable Until the network without the cable (wireless), Wi-Fi (Eireless Fidlity) is one of the networks without the cable. Because of the ease in access, could keep moving the place easily Without bringing the quite complicated network, As well as the amount of equipment that supported this technological expansion, Made the number of his users increased.

This research was made to know performance from one acces point that covered The distance pattern of acces point signal.

Wireless Access point is became one of the important parts in the network of Wi-Fi Because of having a function for transmitting the data That was connected with the WLAN network. One of the functions from Access Point is Sent and accepted the data To buffer the data between WLAN and Wired LAN, Converted the frequency signal of radio (RF) became the digital signal That will be distributed through the cable or was distributed the other WLAN equipment by being converted became the frequency signal of radio.

Table 1. The development of the WIFI standard
source:*http://id.wikipedia.org/wiki/WiFi*

Type	Max speed	Frequency (GHz)	Modulation	interference
802.11a	54 Mbps	5	OFDM	kecil
802.11b	11 Mbps	2.4	DSSS	besar
802.11g	54 Mbps	2.4	OFDM	besar

One of Access Point could serve approximately totalling 30 users, however the number of users which was connected to one of access point Will be influential in the speed of the sending or acceptance of the data, With even more of them the user Will result in the decline in the Access speed point To send and accept this data, Moreover the user's clearance with access point is also influenced the speed of the data from the access point.

The Methodology

the parameter that was tested was the pattern of the distribution of the signal from acces point, the number of clients that could connect to acces point. the parameter was chosen because of the parameter that determined the perfomance of the foundation of one wireless acces point that was used by many users to the relative area was not too wide, for example like campoes network. but in this research just showed the distribution of energy or the signal from wireless acces point.

The pattern of the distribution of the signal from access point depicted an area that could be covered by the signal access point, and how many mulberrys signal that was distributed towards the distance and the direction from wireless access point. In doing this grating, was used software Netstumbler, that is one software that could detect the signal size that was caught by wireless adapter that was met to the laptop.

Wireless access point must be set to be able to operate. One of the methods did setting towards one access point was to go through one web browser. After be set to, access point this will be detected by the integrated computer wifi adapter inside. By being opened software netstumbler that has installed to the computer will be seen as big the signal that was

obtained.

The trial was carried out in an area that enough areas with the diameter around 100m without the obstacle anything, that was chosen was the area parked around the campus. One access point that has be set to the next one was activated and was placed in the middle – middle this area. With used software Netstumbler, could be seen as big the signal that could be caught by wifi adapter in the laptop. To see the pattern of the distribution from the signal access point, was made the pattern of a circle with the corner 360° that was shared to 8 parts with wireless access point in the middle – middle him. This meant the signal access point will be measured by each direction 45°.

The taking of the data was begun interestingly the straight rope from the middle position access point to place a laptop all along the rope. Carried out the grating of the signal Snr (Signal to Noise Ratio), thought Snr that was measured was 60, 50, 40 and 30dB. Firts recorded the laptop clearance to wireless access point after being obtained by the signal of 60dB. After that kept the laptop clearance away with access point until was obtained by the signal 50 dB and was recorded again by the distance that was needed, the laptop was again shifted avoided wireless access point to get the signal 40 dB and was measured again by his distance.

The laptop was shifted again to get the signal 30 dB and was recorded by the distance that was needed, this was the last signal size that was measured because of the limitations of the area. Then the laptop was moved to the best of 45°, afterwards was measured again by the distance that was needed to get the value of the signal as big as 60dB, 50dB, 40dB and 30dB. Laptop continued to be shifted every time 45° until the whole 360°. Thought from the distance masing – masing Snr was recorded. From the data – the data that was received could be depicted pattern from the distribution of the signal access point this, results could be seen in the results sub-chapter and the analysis.

The following trial was to carry out the test against the number of users in acces point, at first the user must be connected with access point, after that users who were connected will get IP address, then one of the users did ping against IP address the other user. It was first that only one user who was connected to access point, afterwards the number of users was increased in stages until reaching 15 user. after that we recorded IP address respectively the User and was carried out ping against all the users, but the user to 15 did not get access because of not getting IP number from

DHCP wireless access poit that was significant did not get acces against access point. So as to be able to be learnt that the number of users who could be connected was 14 users.

Was based on results of the trial about the pattern of the signal broadcast access point, was gotten the pattern as :

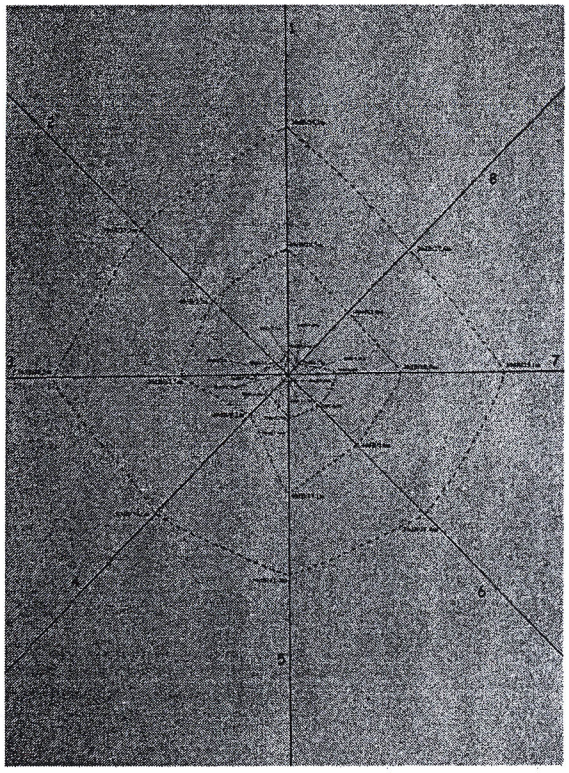


Figure1 the pattern of signal

Access point that used was LIKSYS WRT 110, so as to be conclude that the pattern of the broadcast access point this was not omni directional pure. Could be seen from the picture 1, that the pattern direction of the broadcast was bigger to the side of no 1,3,5, and 7. Whereas the other direction SNR not as big as that. In SNR 50 no.4 were seen smaller than was other. Whereas in SNR 60 no.8 and 2 smallest. Seen also that the front and behind from access point Linksys was the pattern the highest signal. The data that was taken also has in put in the table 2.

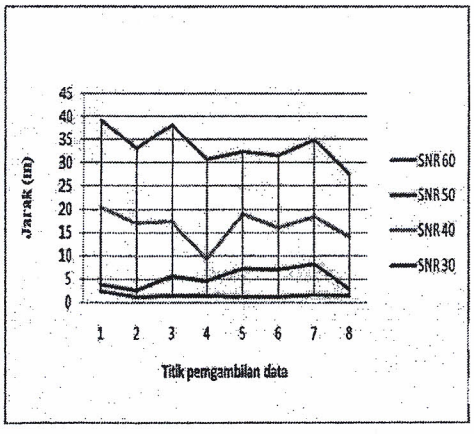
Signal	titik (derjat)							
	1 (0°)	2 (45°)	3 (90°)	4 (135°)	5 (180°)	6 (225°)	7 (270°)	8 (315°)
SNR 60	2,5	1,2	1,32	1,44	1,17	1,28	1,55	1,48
SNR 50	3,84	2,57	5,55	4,49	7,26	6,9	8,2	2,77
SNR 40	20,5	17	17,5	9,2	19,1	16	18,5	14
SNR 30	39,3	33,3	38,3	30,8	32,4	31,6	35,1	27,6

Table 2 value of pattern signal

From the table above could be seen that the point 1 was the furthest point in the value Snr, so as to be able to be confirmed that this point was the direction from anternal internal wireless access point.The point 1 was the foremost position point from acces point Linksys WRT 110, Whereas the point 5 were the point behind from access point Liknsys WRT 110. In wireless access point this was gotten by indicators that could be seen in site

http://images.google.co.id/imgres?imgurl=http://www.gudangnetwork.com/gnet/components/com_virtuemart/shop_image/product/8dcbe07698a9cb8286f56e377fe442a9.jpg&imgrefurl=http://www.gudangnetwork.com/gnet/en/virtuemart/1890.html&usg=__-b34zTmbsUwYaJfxZdIo8sfhHEU=&h=280&w=280&sz=11&hl=id&start=3&um=1&tbnid=_92_v19p9enr4M:&tbnh=114&tbnw=114&prev=/images%3Fq%3Dlinksys%2Bwrt%2B110%26hl%3Did%26cr%3DcountryID%26sa%3DG%26um%3D1

Along with this was the specification from Linksys WRT 110 that was tested http://www.anugrahpratama.com/product/329/3161/Linksys-WRT110



Picture 2 the pattern of signal for WAP LYNKSYS WRT 110

This graph is the graph from the transmit pattern the signal that was dismissed by wireless access point LYNKSYS WRT 110. The blue colour to this graph is Snr 60, the red colour is Snr 50, the green colour is Snr 40, the purple colour is Snr 30. Could be seen that in Snr 60 The change in his distance fewer compared with that was other or stable. for Snr 50 the change his value of the distance was more unstable compared to Snr 60, for Snr 40 the change his value of the distance was bigger than Snr 60 and 50, So as his graph was rougher, Whereas to Snr his 30 values of the distance were biggest compared to Snr 60, SNR 50, SNR 40, So as the picture of his graph that was roughest

Conclusions

From this trial could be concluded that In wireless access point that was tested, with increasingly the proximity of the user's clearance with access point, then the pattern of the signal broadcast that was received by adapter wifi to the laptop was increasingly strong and stable,in each corner access point that was tested

This trial also counted the number of users in access point, results that were obtained were 14 users, he trial was carried out with 15 users, but only 14 users that could connecting by being good towards wireless access point.

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ISSN 2086-0927