

INTERNATIONAL CONFERENCE



The Second International Conference on
Engineering and Technology Development

2nd ICETD 2013

27, 28, 29 August 2013, Bandar Lampung, Indonesia



PROCEEDINGS



In
Cooperations
With :



الجامعة الإسلامية العالمية
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يؤيدوننا في كل وقتنا وجميعنا



Hosted by :

Faculty of Engineering and Faculty of Computer Science,
Bandar Lampung University (UBL), Indonesia

2nd ICETD 2013

THE SECOND INTERNATIONAL CONFERENCE
ON ENGINEERING AND TECHNOLOGY DEVELOPMENT

28 -30 January 2013
Bandar Lampung University (UBL)
Lampung, Indonesia

PROCEEDINGS

Organized by:



Faculty of Computer Science and Faculty of Engineering
Bandar Lampung University (UBL)
Jl. Zainal Abidin Pagar Alam No.89 Labuhan Ratu, Bandar Lampung, Indonesia
Phone: +62 721 36 666 25, Fax: +62 721 701 467
website : www.ubl.ac.id

PREFACE

The Activities of the International Conference is in line and very appropriate with the vision and mission of Bandar Lampung University (UBL) to promote training and education as well as research in these areas.

On behalf of the Second International Conference on Engineering and Technology Development (2nd ICETD 2013) organizing committee, we are very pleased with the very good response especially from the keynote speaker and from the participans. It is noteworthy to point out that about 80 technical papers were received for this conference.

The participants of the conference come from many well known universities, among others : University Kebangsaan Malaysia – Malaysia, APTIKOM – Indonesia, Institut Teknologi sepuluh November – Indonesia, Surya Institute – Indonesia, International Islamic University – Malaysia, STMIK Mitra Lampung – lampung, Bandung Institut of Technology – Bandung, Lecture of The Malahayati University, B2TP – BPPT Researcher – lampung, Starch Technology Center – Lampung, Universitas Islam Indonesia – Indonesia, Politeknik Negeri Malang – Malang, University of Kitakyushu – Japan, Gadjah Mada University – Indonesia, Universitas Malahayati – Lampung, Lampung University – lampung, Starch Technology Center – Lampung, Universitas Riau – Riau, Hasanuddin University – Indonesia, Diponegoro University – Indonesia, King Abdulaziz University – Saudi Arabia, Parahyangan Catholic University – Indonesia , National Taiwan University–Taiwan, Surakarta Christian University – Indonesia, Sugijapranata Catholic University – Indonesia, Semarang University – Indonesia, University of Brawijaya – Indonesia, PPKIA Tarakanita Rahmawati – Indonesia, Kyushu University, Fukuoka – Japan, Science and Technology Beijing – China, Institut Teknologi Sepuluh Nopember – Surabaya, Researcher of Starch Technology Center, Universitas Muhammadiyah Metro – Metro, National University of Malaysia – Malaysia.

I would like to express my deepest gratitude to the International Advisory Board members, sponsor and also to all keynote speakers and all participants. I am also gratefull to all organizing committee and all of the reviewers who contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector of Bandar Lampung University (UBL) who give us endless support to these activities, so that the conference can be administrated on time

Bandar Lampung, 29 August 2013-08-26

Mustofa Usman, Ph.D
2nd ICETD Chairman

PROCEEDINGS

2nd ICETD 2013

The Second International Conference
On Engineering And Technology Development

28 -30 January 2013

INTERNATIONAL ADVISORY BOARD

Y. M Barusman, Indonesia
Ahmad F. Ismail, Malaysia
Mustofa Usman, Indonesia
Moses L. Singgih, Indonesia
Andreas Dress, Germany
Faiz A.M Elfaki, Malaysia
Warsono, Indonesia
Raihan Othman, Malaysia
Zeng Bing Zen, China
Tjin Swee Chuan, Singapore
Khomsahrial R, Indonesia
Rony Purba, Indonesia
Alex Tribuana S, Indonesia
Hon Wei Leong, Singapore
Imad Khamis, USA
Rozlan Alias, Malaysia
Rudi Irawan, Indonesia
Gusri Ibrahim, Indonesia
Jamal I Daoud, Malaysia
Riza Muhida, Indonesia
Heri Riyanto, Indonesia
Agus Wahyudi, Indonesia
Lilies Widojoko, Indonesia

PROCEEDINGS

2nd ICETD 2013

The Second International Conference
On Engineering And Technology Development

28 -30 January 2013

STEERING COMMITTEE

Executive Advisors

Dr. M. Yusuf S. Barusman
Andala R. P. Barusman, MA.Ec

Chairman

Mustofa Usman, Ph.D

Co-Chairman

Dr. Ir. Hery Riyanto, MT
Ahmad Cucus, S.Kom., M.Kom

Secretary

Marzuki, S.Kom., M.Kom
Maria Shusanti Febrianti, S.Kom., M.Kom

Technical Committee

Indyah Kumoro, ST. IAI
Ardiansyah, ST., MT
Sofiah Islamiah, ST. MT
Taqwan Thamrin, ST., MSc
Dina Ika Wahyuningsih, S.Kom
Agus Sukoco, M.Kom
Hj. Susilowati, ST. MT
Haris Murwadi, ST, MT
Robby Yuli Endra, S.Kom., M.Kom
Fenty Ariani, S.Kom., M.Kom

Treasure

Samsul Bahri, SE
Dian Agustina, SE

PROCEEDINGS

2nd ICETD 2013

The Second International Conference
On Engineering And Technology Development

28 -30 January 2013

ORGANIZING COMMITTEE

Chair Person

Dr. Ir. Hery Riyanto, MT

Vice Chair Person

Yuthsi Aprilinda, S.Kom., M.Kom

Treasure

Dian Agustina, S.E

Secretary

Aprizal, ST. MT

Ir. Tjejeng Sofyan, MM

Ir. Muhammad Zein, MT

Ir. Bambang Pratowo, MT

Special Events

Ir. Juniardi, MT

Ir. Indra Surya, MT

Ir. Sugito, MT

DR. Baginda Simaibang, M.Ed

Berry Salatar, S.Pd

Yanuar Dwi Prasetyo, S.Pd.I., M.A

Receptionist

Ir. Najamudin, MT

Kunarto, ST. MT

IB. Ilham Malik, ST. MT

Ir.A Ikhsan Karim, MT

Ir. Asikin, MT

Usman Rizal, ST., M.MSi

Transportation and Acomodation

Irawati, SE

Desi Puspita Sari, S.E

Tanto Lailam, S.H

Ilyas Sadad, S.T., M.T

Publication and Documentation

Ir. Indriati Agustina Gultom, M.M

Noning Verawati, S.Sos

Hesti, S.H

Rifandi Ritonga, SH

Violita, S.I.Kom

Cosumption

Dra. Yulfriwini, M.T

Wiwin Susanty, S.Kom., M.Kom

Fenty Ariani, S.Kom., M.Kom

Reni Nursyanti, S.Kom., M.Kom

Erlangga, S.Kom

Arnes Yuli Vandika, S.Kom

Facility and Decoration

Siti Rahma Wati,SE

Dina Ika Wahyuningsih, S.Kom

Zainal Abidin, SE

Ahyar Saleh, SE

Eko Suhardiyanto

Wagino

Sugimin

Table Of Content

Organizing Committee	i
Table Of Content.....	v
Keynote Speaker	
1. Recent Advances in Biofuel Cell and Emerging Hybrid System Abdul Aziz Ahmad and Raihan Othman	1
2. Waste Utilization Study Tailing Gold Mine in Way Linggo-Lampung, as Fine Aggregate Materials for Producing Mortar Materials based on concept of Green Technology Lilies Widodojoko & Susilawati	8
3. Infrastructure Health Monitoring System (SHM) Development, a Necessity for Maintance and Investigation Prof. Dr. Priyo Suprobo, Faimun, Arie Febry	17
4. Four Phases Quality Function Deployment (Qfd) By Considering Kano Concept, Time And Manufacturing Cost Prof. Dr. Moses L Singgih, Dyah L. Trenggonowati, Putu D. Karningsih	22

Speaker

1. Comparative Analysis for The Multi Period Degree Minimum Spanning Tree Problem
Wamiliana, Amanto, and Mustofa Usman..... 39
2. Choosing The Right Software In Supporting The Successful of Enterprise ERP Implementation
Yodhie Yuniarthe, Idris Asmuni..... 44
3. Climate Adaptive Technology In Maintaining Vernacularism Of Urban Kampong Case study: Kampung Adat (Indiginous) Mahmud, Bandung District, West Java
Marcus Gartiwa..... 50
4. The Prospect Of Diesohol In Facing Fossil Fuel Crissis
M.C. Tri Atmodjo..... 63
5. The Potential Of Agriculture And Forestry Biomass Wastes As Source Of Bioenergy
Hardoyo..... 66
6. The Importance of Education Facility as Sustainable Urban Generation Tool
Fritz Akhmad Nuzir, Haris Murwadi and Bart Julien Dewancker 71
7. The implementation of Secton Method for Solving Systems of Non Linear Equations
Nur Rokhman 80
8. Quality Control Analysis Into Decrease The Level Defects On Coffee Product
Heri Wibowo, Sulastri and Emy Khikmawati 85
9. Public Transpotion Crisis In Bandar Lampung
Ida Bagus Ilham Malik 89
10. Geospatial Analysis of Land Use Change in Way Kuripan Watershed, Bandar Lampung City
Candra Hakim Van Rafi'1., Dyah Indriana Kusumastuti2., Dwi Jokowinarno..... 99
11. Material Utilization Technology Of Agriculture And Forestry Waste
Hardoyo..... 105
12. The Supply Chain System Of Cassava On The Tapioca Industry
Hardoyo..... 108
13. Glass Technology In Natural Light Glasses On Aperture Element In The Architecture World
Muhammad Rija & MT Pedia Aldy 113

14. An Eksperimental Permeable Asphalt Pavement Using Local Material Domato Stone On Quality Of Porous Asphalt
Firdaus Chairuddin, Wihardi Tjaronge, Muhammad Ramli, Johannes Patanduk 117
15. Coordination Of Architectural Concepts And Construction Systems
Eddy Hermanto. 129
16. Seismic Assessment of RC Building Using Pushover Analysis
Riza Ainul Hakim...... 136
17. Viscosity and Liquidity Index Relation for Elucidating Mudflow Behavior
Budijanto Widjaja and Shannon Hsien-Heng Lee...... 143
18. The Use of Pozzolanic Material for Improving Quality of Strontium Liquid Waste Cementation in Saline Environment during Nuclear Waste Immobilization Process
Muhammad Yusuf, HayuTyasUtami, Tri SulistiyoHariNugroho, SusetyoHarioPutero 148
19. Geospatial Analysis Of Land Use And Land Cover Changes For Discharge At Way Kualagaruntang Watershed In Bandar Lampung
Fieni Yuniarti, Dyah Indriana K, Dwi Joko Winarno...... 153
20. Wifi Network Design For High Performance
Heru Nurwarsito, KasyfulAmron,BektiWidyaningsih 161
21. Studi on The Efficiency Using Nature Materials in The Structural Elements of Reinforced Concrete Beam
Yasser, Herman Parung, M. Wihardi Tjaronge, Rudy Djamaluddin...... 167
22. The Research Of Slow Release Nitrogen Fertilizer Applied In Sugarcane (Saccharum Officinarum) For Green Energy Bioethanol
M.C. Tri Atmodjo, Agus Eko T. Nurul Rusdi, Sigit Setiadi, and Rina...... 179
23. Energy Utilization Technology Of Agriculture And Forestry Waste
Hardoyo...... 185
24. Implementation Of Fuzzy Inference System With Tsukamoto Method For Study Programme Selection
Fenty Ariani and Robby Yuli Endra. 189
25. The Analysis of Video Conference With ITU Standarization (International Telecommunication Union) That Joining in Inherent At Bandar Lampung University
Maria Shusanti F, Happy Reksa 201

26. The E-internal audit iso 9001:2008 based on accreditation form assessment matrix in study program for effectiveness of monitoring accreditation Marzuki, Maria Shusanti F.	207
27. The Developing Of e-Consultations For Effectiveness of Mentoring Academy Ahmad Cucus, Endang K	214
28. The Evaluation of information system performance in higher education case study with EUCS model at bandar lampung university Reni Nursyanti, Erlangga.	221
29. The Analysis Of History Collection System Based On AndroidSmartphone With Qr Code Using Qr CodeCase Study: Museum Lampung Usman Rizal, Wiwin Susanty, Sutrisno.	230
30. Application of Complaint Handling by Approach Model of ISO 10002 : 2004 to Increase Complaint Services Agus Sukoco and Yuthsi Aprilinda.	235
31. Towards Indonesian Cloud Campus Taqwan Thamrin, Iing Lukman, Dina Ika Wahyuningsih	252
32. Bridging Router to ADSL Modem for Stability Network Connection Arnes Yuli Vandika and Ruri Koesliandana.	257
33. The Effect of Use Styrofoam for Flexural Characteristics of Reinforced Concrete Beams Yasser , Herman Parung, M. Wihardi Tjaronge, Rudy Djamaluddin	261
34. The Estimation Of Bioethanol Yield From Some Cassava Variety M.C. Tri Atmodjo	273
35. Effect of Superficial Velocity of Pressure Difference on The Separation of Oil And Water by Using The T-Pipe Junctionl Kms. Ridhuan and Indarto.	277
36. The use of CRM for Customer Management at Cellular Telecommunications Industry Ayu Kartika Puspa.	293
37. Indonesian Puslit (Centre Of IT Solution) Website Analysis Using Webqual For Measuring Website Quality Maria Shusanti Febrianti and Nurhayati.	297
38. The E-internal audit iso 9001:2008 based on accreditation form assessment matrix in study program for effectiveness of monitoring accreditation Marzuki, Maria Shusanti F.	307

39. Enhancing Quality Software Through CMMI-ISO 9001:2008 and ISO 9126 Agus Sukoco	320
40. Value Analysis Of Passenger Car Equivalent Motorcycle (Case Study Kartini Road Bandar Lampung) Juniardi, Aflah Efendi	337
41. Alternative Analysis Of Flood Control Downstream Of Way Sekampung River Sugito, Maulana Febramsyah.	347
42. Analysis Of Fitness Facilities And Effective Use Of Crossing Road Juniardi, Edi Haryanto.	353
43. Study On Regional Development Work Environment Panjang Port Lands In Support Bandar Lampung City As A Service And Trade Ir. A. Karim Iksan, MT, Yohn Ferry.	359
44. Analytical And Experimental Study Bamboo Beam Concrete Hery Riyanto, Sugito, Juli	370
45. Comparative Analysis Of Load Factor Method Static And Dynamic Method (Case Study Akdp Bus Route Rajabasa - Bakauheni) A. Ikhsan Karim, MT., Ahmad Zulkily.	378
46. Optimization Utilization Of Water Resources dam Batutegei Using Method Of Linear Program Aprizal, Hery Fitriyansyah	386
47. Characteristics Generation Traffic Patterns And Movement In Residential Area (Case Study Way Kandis Residential Bandar Lampung) Fery Hendi Jaya, Juniardi,	392
48. Use Study On Slight Beam Reinforced Concrete Floor Plate in Lieu Of Secondary Beam Hery Riyanto, Sugito, Lilies Widodjoko, Sjamsu Iskandar	399
49. Observation Of The Effect Of Static Magnetic Field 0.1 Mt On A-Amylase Activity In Legume Germination Rochmah Agustrina, Tundjung T. Handayani, and Sumardi.	405
50. Effectiveness Analysis Of Applications Netsupport School 10 Based Iso / Iec 9126-4 Metrics Effectiveness Ahmad Cucus, Nelcy Novelia	413
51. Comparative Performance Analysis Of Banking For Implementing Internet Banking Reza Kurniawan	418

Bridging Router to ADSL Modem for Stability Network Connection

Arnes Yuli Vandika and Ruri Koesliandana

*Network Engineer / Junior Lecture
Computer Science of Faculty, University of Bandar Lampung (UBL)
E-Mail : arnes@ubl.ac.id / arnes.vandika@gmail.com,
Practitioners Computer
Computer Science of Faculty, STMIK Teknokrat
E-Mail : ruri@teknokrat.ac.id*

Abstract : *We often use the modem but often also see the modem gets hot, because there is also an increase in the process that uses the entire capacity of the modem. Modem is a device used to convert from analog signals to digital signals. Modem that works in full and will also experience the maximum heat conditions. The modem overheats due to an increase in the connection often dropped out suddenly. This is so the problems that often occur in the modem user. Modem is in meticulous type of ADSL technology. ADSL Modem type is very much in use by home users. Experience using this modem, the modem at the beginning of stable then increase the heat, then drop the connection. The approach we use is the method of approach to the bridge network routers, where the router that will perform the function dial and modem just as a conductor only. The router is a device that is used to skip the lines and network maps.*

Keyword, Bridge Network, Modem, Oeverheat Modem, Router, ADSL

INTRODUCTION

The use of the Internet at the moment is very much its unbelievable. Internet is not only used by young men only, but in early 2012 the internet today has entered a new phase in which the users has been mixed with different kinds of people. Devices that have been long in use typically suffered damage caused by aging equipment and so on. Every device that has been in production, should be supplied by a variety of cutting-edge technology or the latest. As we all know where that technology is at the start by a modem dial-up modem that only uses little bandwidth and are now using very sophisticated. Own modem is a device that converts from analog signal to digital signal. In the daily life of internet users The growth of Internet users in Indonesia in the last 10 years very quickly. Twelve years ago, Internet users in Indonesia is only 2 million people. Now, at least until the end of December 2012, the Association of Indonesian Internet

Service Providers record internet users in the country has reached 63 million people.

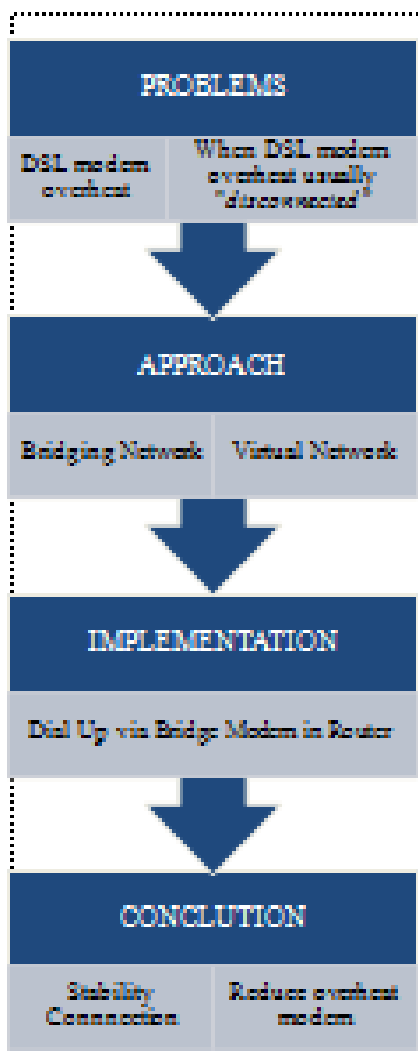
PROBLEMS

Use a modem that is too long may result in overheating. Excess heat that can lead to lost connections nyanya. Here we will formulate the problems that often occur in ADSL modem, namely:

- Excessive heat when the modem is used in a long time (more than 1 hour)
- If heat occurs on the appliance, the appliance will be dropped out of the network connection
- If the modem has been disconnected and suhun still hot, then to dial back will often have failed to connect to the network connection.

FRAMEWORK

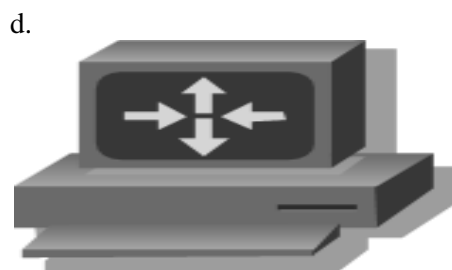
Issues raised in the above will be made into a frame of mind the following:



b. Switch



c. Router / PC – Router



TOPOLOGY

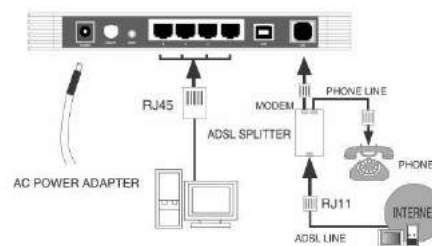
At this research uses network topology directly from the UTP cable to the modem, it is intended to provide the maximum path in the network bridge method. While the topology itself is a draft and design network communication channels between computers with software that is in use. Topology also provides an explanation on the intent of a network.

Conclusions obtained from the frame work allows us to make multi-way lines of communication with modem.

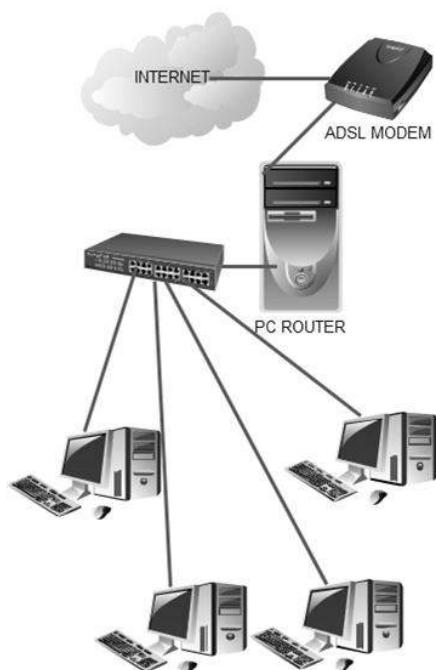
THE DEVICE

We use some of the following devices in this research are:

a. Modem ADSL



Here are the main topology design that I use when researching the use of :



- Router
 Device that forwards data packets between computer networks, creating an overlay internetwork. A router is connected to two or more data lines from different networks. When a data packet comes in one of the lines, the router reads the address information in the packet to determine its ultimate destination. Then, using information in its routing table or routing policy, it directs the packet to the next network on its journey. Routers perform the "traffic directing" functions on the Internet. A data packet is typically forwarded from one router to another through the networks that constitute the internetwork until it reaches its destination node.

In another journal, A router is a network device that is used to divide the protocol to the other members of the network, with a router then a protocol can be shared to other network devices. Example applications are if we want to split the IP Address to the members of the network, we can use this router, the router features is the facility DHCP (Dynamic Host Configuration Protocol), by setting up DHCP, then we can divide the IP Address, the other facilities of the Router is the NAT (Network Address Translator) that can allow an IP address or internet connection to be shared another IP address, for example, if on a network device (computer) has IP Address is 192.168.0.1, so that other computers can communicate, must be given the IP address of the Network Identification 192.168.0 and the Host Identification 2-254, example 192.168.0.10, 192.168.0.11 and onwards.

Problems will arise when the networks connected very much (usually above 20 device), an administrator will be forced around to setting up the IP address of each

THE BRIDGE

Here are the steps in the travel on the construction of the bridge via modem dial:

- Bridge Modem
 Make sure that the modem was in bridge mode setting for the position. Bridge mode is a position where there is no Internet Protocol / IP is entered or made. This image was taken from the modem tp-link modem commonly found on the market in Indonesia country. Modem settings are already in the bridge then UTP cable plugged directly to the pc-router or router, then from the router to be set up the connection.



host, therefore we can use the Router.

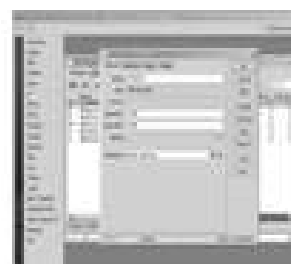
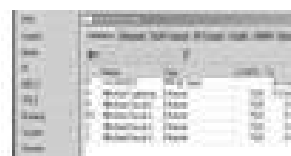
Types of Routers

1. Router Application
2. Router Hardware
3. PC Router

Router application is an application that can be installed pad operating system, so the operating system will have the ability as a router, an example of this application is WinRoute, WinGate, SpyGate, WinProxy and others.

Hardware is a hardware router that has the ability like router, so that from the hardware can emit or divide the IP Address and IP Address to sharing, in practice, a hardware router is used to share Internet connection on a space or area, this is an example of an access router point, the area to get Ip address and an internet connection called Hot Spot Area.

Router is a PC Operating System has the facility to divide and mensharing IP Address, so if a network device (pc) connected to a computer will be able to enjoy the IP Address or Internet connection is shared by the operating system, the operating system instance that can be used is all client server-based operating systems, such as Windows NT, Windows NT 4.0, Windows 2000 server, Windows 2003 Server, MikroTik (Linux-based), and others.



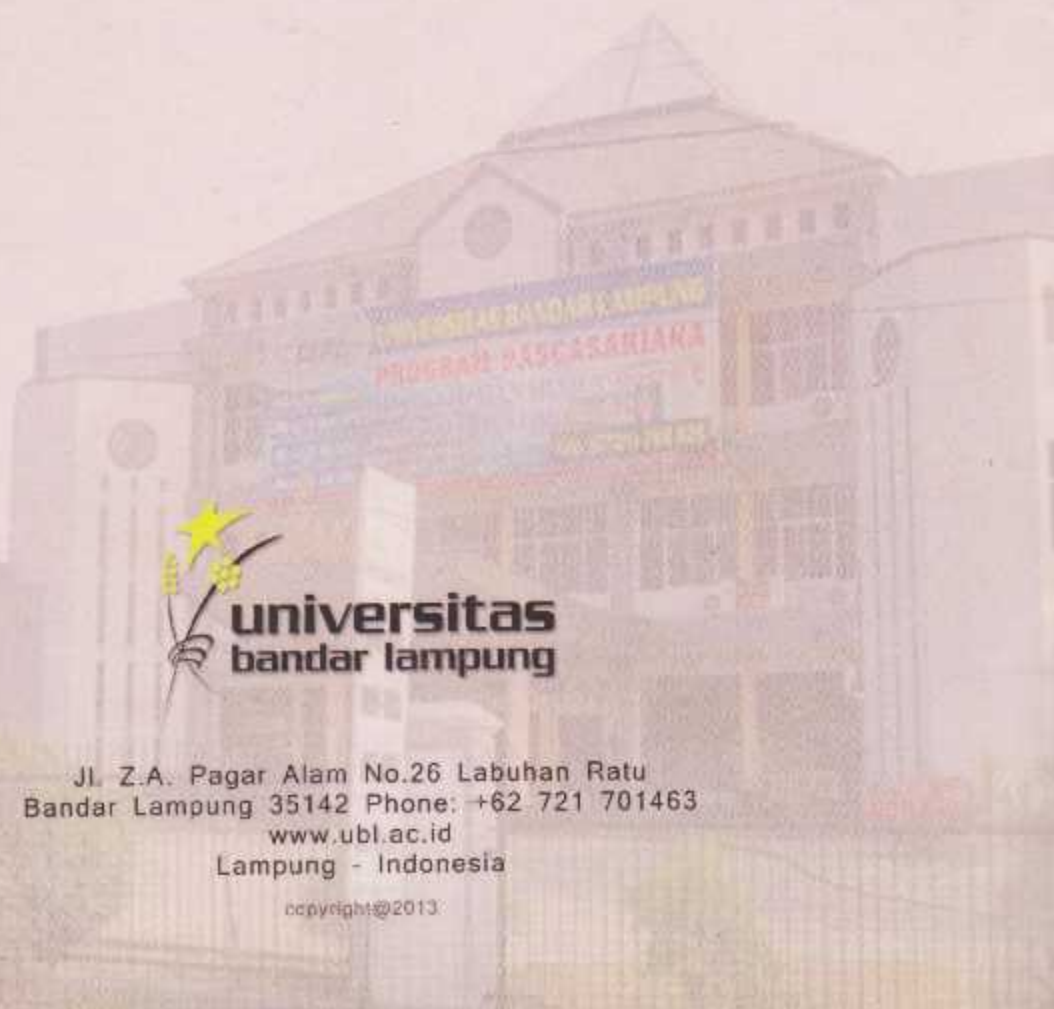
IPCOP router

Mikrotik Router

REFERENCES

1. M Enrico, N Billington, J Kelly, G Young (2000), Delivery of IP over Broadband Access Technologies.
2. Indradip Ghosh, Kalyan Basu, Sumantra R. Kundu (2007), A Cross-Layer Approach for Evaluating the Impact of Single NEXT Interferer in DMT Based ADSL Systems.
3. Louis Plissonneau, Jean-Laurent Costeux, Patrick Brown (2005), Analysis of Peer-to-Peer Traffic on ADSL.
4. Gerhard Haßlinger, Joachim Mende, Rüdiger Geib, Thomas Beckhaus, Franz Hartleb (2007), Measurement and Characteristics of Aggregated Traffic in Broadband Access Networks.
5. Szewczyk, Patryk (2004), Analysis of Data Remaining on Second Hand ADSL Routers.
6. Dwi Febrian Handriyanto (2009), Kajian Penggunaan Mikrotik Router Os Sebagai Router Pada Jaringan Komputer





**universitas
bandar lampung**

Jl. Z.A. Pagar Alam No.26 Labuhan Ratu
Bandar Lampung 35142 Phone: +62 721 701463
www.ubl.ac.id
Lampung - Indonesia

copyright © 2013