

THESIS APPROVAL STATUS FORM

JUDUL: SIMPLE QUERY NETWORK

SESI PENGAJIAN: 2004/2005

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ADMISSION

I admitted that this project title name of

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ABSTRACT

This project has been called Simple Query Network. Purpose this project is to simplify Network Administrator job. Where, Network Administrator can observe all of IP address in network although it's on difference network. These projects have part for login, PMSG, IP manager, network query and log file. Network Administrator can use all of part to avoid from IP conflict from happen. All of part in this project can help Network Administrator to handle and manage the network. These projects are successfully because this project has achieved their objectives and goals.

ABSTRAK

Projek ini dipanggil Simple Query Network. Tujuan projek ini adalah untuk memudahkan kerja Network Administrator. Dimana, Network Administrator boleh memerhatikan kesemua alamat IP dalam rangkaian walaupun ianya berlainan rangkaian. Projek ini mempunyai bahagian untuk login, PMSG, IP manager, network query dan log file. Network Administrator boleh menggunakan kesemua bahagian untuk mengelakkan daripada berlaku selisih alamat IP. Kesemua bahagian di dalam projek ini boleh membantu Network Administrator untuk mengurus dan mentadbir rangkaian. Projek ini adalah berjaya dibangunkan kerana projek ini telah memperolehi objektif dan sasaran.

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CHAPTER I

INTRODUCTION

1.1 Introduction

Normally, project like this has developed using Visual C++. But for this project, it was developed by using PHP, MYSQL and Apache Web Server. Listed below are the information for PHP, MYSQL and Apache Web Server:-

- PHP version 4.0 for source code and programming language.
- Apache Web Server version “apache_1.3.20-win32-no_src-r2” for web server platform.
- MSQL version “mysql-3.23” for database.

This project has 7 parts query. Among of project query is a login, ping, net send, log files, telnet, PMSG and IP manager. Listed below are the queries of the project:-

- **Login** – This query will provide interface for check username and password. With the right username and password, Network Administrator can access into system. If Network Administrator lost the password, Network Administrator can get the password with send the username at “lost password” page. Then system will send password to Network Administrator email.
- **Ping** – This query will provide interface to display information about reply time from client. All of time reply from client is measured in milliseconds

(ms). Purpose of this query is to give information about reply time to Network Administrator to know the client still valid or not.

- **Net send** – This query will provide interface to send message. Where, Network Administrator can send message to client using net send command.
- **Log files** – This query will provide interface log. This interface will display information about IP address and time user that login before.
- **Telnet** – This query will provide tool for access into other system. This query has limitation where this query just used for LINUX/UNIX platform.
- **PMSG** – This query will provide interface for users to send message to Network Administrator. All of message will save into database then Network Administrator can read and delete this message.
- **IP manager** – This query will provide interface to manage IP address in network. Beside that, IP manager can manage many range of IP address. Network Administrator can check the status whether the IP address is still valid or not. For IP address switches or router, Network Administrator can click button “Telnet” and automatically will telnet to switches or router. Network Administrator can print out each process.

1.1.1 Problem statement

Before this, project like this have used in an Information Technology company. Purpose of this project is to manage and handle all of IP address in the network. Beside that, this project to help Network Administrator to record all of IP address in order to avoid from IP conflict.

Problem for already project is Network Administrator can't communicate with client to know client still valid or not. So, this project will be solution for entire problem. Where, this project has tools or function to help Network Administrator to observe all IP address in the network. Beside that, Network Administrator can communicate with client using net send and PMSG query. This project is a re-creation project because this project has combined with old system.

1.2 Project objective

This project can be used by any organization(s) which require monitor and observe the IP address in the network. Listed below are the objectives of the project:-

- This project will be solution for already problem.
- This project will provide tools for Network Administrator to manage and handle network.
- This project will simplify Network Administrator job to observe all IP address on difference network.

1.3 Project Scopes

All of the origin code has created for UNIX/LINUX platform. So, this project has manipulated all of code to windows platform using PHP version 4.0. Listed below are scopes for this project:-

- **Login** – This project has login system. This part will process a right user that can access into system. If Network Administrator lost the password, Network Administrator can get the password with send the username at “lost password” page. Then, password will send to email.
- **Message** - Client can send message to Network Administrator to inform about network problem. Network Administrator can read and delete this message.
- **Log files** - This project will be log all of transaction and activities login, where all of IP address and time will be save into log files in order to Network Administrator can know who are has login before.
- **Net send/Telnet/Ping** – Network Administrator can send message to client using net send query and Network Administrator can access to other system using telnet query. Also, Network Administrator can know client still valid or not using ping query.

- **IP manager** – Facilities for Network Administrator to handle network and all of queries will help Network Administrator.

1.4 Project priority

This project provides a Network Administrator with one system to manage and handle the network. This project has developed to observe all IP address on network although on difference network.

This project also provides a list of IP address which client is still valid or not in network and has queries to help Network Administrator to manage the network. Therefore the Network Administrator can determine information about IP address such as PC name and IP address and also can communicate with client using net send or PMSG query.

This project is very suitable not only for Network Administrator but also to those who are involved in network management and monitoring.

1.5 Conclusion

PSM project give the student the chance to implement what they have premeditated at KUTKM. This project is one of the PSM project and it consists of monitoring function for all IP address on network.

This project also has the additional features to help Network Administrator especially to observe all IP address. It develops to the LAN environment and perhaps, can also be implemented on any network environment.

This project also helps anybody who is involved in IP monitoring and it is compatible to network environment hopefully.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

IP manager are mostly develop using Visual C++ language programming to observe all IP address on network. Purpose of IP Manager is to manage and handle all of IP address on the network and avoid from IP conflict.

The research is very important to this project; it can help to build up the IP manager. Before build up project, the research about IP manager must been done and try to find any example of IP monitoring tools from internet and try to learn how the function, what methodology is use, language programming and many more.

2.2 Case Study

2.2.1 IP monitor 4.1



Figure 1.0: Interface for IP Monitor 4.1

From researched this tools has provided information about client include Computer Name, Local IP Address, Public IP Address Last Update and Status. This tool has developed using MFC application. IP Monitor displays a computer's name and IP address in a window. If notification features are turned on, when the IP address changes, it can be sent to an email address and/or an FTP server to notify of the changes.

This is useful for computers that have dynamically assigned IP addresses, but need to be accessed remotely. Full SMTP email and FTP support to send notification of changes. This tool can work under Win ME, 2000 and XP.

2.2.2 IP-tools

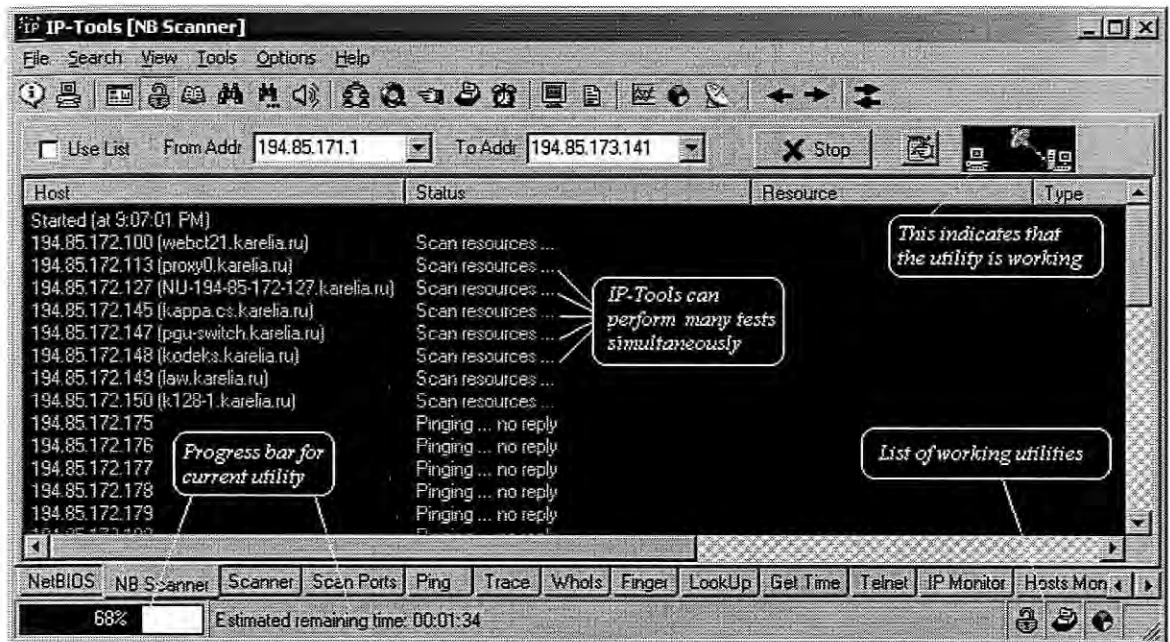


Figure 2.0: Interface for IP-Tools

From researched this tools has provided tools for handle and manage network. IP-Tools offer many TCP/IP utilities in one program. This tool can work under Windows 95/98/ME / NT4.0/2000/XP and is indispensable for anyone who uses the Internet or Intranet. For information about this tool, this tool has provided 19 utilities for client. Among of their utilities is a:-

No	Utilities	Description
1	Local Info	examines the local host and shows info about processor, memory, Winsock data, etc.
2	Connection Monitor	displays information about current TCP and UDP network connections
3	NetBIOS Info	gets NetBIOS information

		about network interfaces (local and remote computers)
4	NB Scanner	shared resources scanner
5	SNMP Scanner	scans network(s) for SNMP enabled devices
6	Name Scanner	scans all hostnames within a range of IP addresses
7	Port Scanner	scans network(s) for active TCP based services
8	UDP Scanner	scans network(s) for active UDP based services
9	Ping Scanner	pings a remote hosts over the network
10	Trace	traces the route to a remote host over the network
11	Who Is	obtains information about a Internet host or domain name from the NIC (Network Information Center)
12	Finger	retrieves information about user from a remote host
13	Look Up	looks for domain names according to its IP address or an IP address from its domain name
14	Get Time	gets time from time servers (also it can set

		correct time on local system)
15	Telnet	telnet client
16	HTTP	http client
17	IP-Monitor	shows network traffic in real time (as a set of charts)
18	Host Monitor	monitors up/down status of selected hosts
19	Trap Watcher	allows you to receive and process SNMP Trap messages

Table 3.0: Utilities for IP-Tools

This tool allows multi tasking operation. Where, client can use all utilities at the same time. Many utilities can obtain information from a single host, from all hosts within a range of IP addresses (ex. 195.128.74.1 - 195.130.200.5) or work with list of hosts and IP addresses. IP-Tools can save obtained information into text file or create cool HTML reports. This tool easy to Install / Upgrade / uninstall program and this tool must registered to enable all features in IP-Tools utilities. This tool can work under Microsoft Windows 95, 98, ME, NT 4.0 (SP3), Windows 2000, Windows XP, or Windows Server 2003. Requirement for this tool is Internet connection or TCP/IP enabled LAN, 3Mb free disk space and Minimum screen resolution: 800 x 600.

2.3 Conclusion

Basically, a tool like this has developed to collect and analyze information about IP address. Example for IP monitoring is IP Monitor 4.1 and IP-Tools. Simple Network Management Protocol (SNMP) is a communication protocol that defines information about IP address.

The literature review will help developer to develop this project. All the information is can be used for referenced and carry on to implement this project.

CHAPTER III

PROJECT PLANNING AND METHODOLOGY

3.1 Introduction

Project Methodology is an important part to design and develop project especially in IP monitoring system. It will show what the methodology and method will use in network design to build up the system.

Before choose what the methodology for the project, developer is consider made a research related with the project. For IP monitoring project, research of IP monitoring tool is has been done. Mostly IP monitoring are using remote monitoring and using SNMP (Simple Network Monitoring Protocol) to observe IP address on the network.

System Development Life Cycle (SDLC) is the overall process of developing information systems or application through a multi step process from investigation of initial requirements through analysis, design, implementation and maintenance. Nowadays, systems are so big and complex that teams of architects, analysts, programmers, testers and users must work together to create the millions of lines of custom-written code that drive our enterprises.

To manage this, a number of system development life cycle (SDLC) models have been created: waterfall, fountain, spiral, build and fix, rapid prototyping, incremental, and synchronize and stabilize. Systems Development Life Cycle (SDLC) takes a holistic view of Information Systems by breaking the entire life cycle into phases of System Definition, Requirements Gathering, System Analysis,