Hybrid LAN Monitoring and Controlling

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Abstract— "Hybrid LAN Monitoring and Controlling" is based on the client-server technology which is computer architecture. Client-server technology separates the applications functions into two or more distinct parts. This technology divides function into client and server subsystems for standard communication. Network clients make request to a server by sending messages and server respond to their clients by acting on each request and producing results. With this application each time that you open a file from Windows Explorer or from a standard open/save dialog box, the name of the file that you opened is recorded by the operating system. This utility save name of file into Recent folder and also in Registry.

Key words: Network, Technology, Operating System

I. INTRODUCTION

Hybrid LAN Monitoring and Controlling is a software application which is used Monitor activities performed by any user on computer system having LAN connection.it uses client server technology. Monitoring and Controlling are the primary features of this system.

Network Connection.dll which is data link library file is downloaded for network Monitoring. the dll file consist of various classes and properties that help to get all details of client as well as server.it consist of class like Node-type, Server, Client and socket Data object. Whenever file save to a specific location on Mac , OS X will save this location in a "Recent places" listing which will be available the next time any one save another file. This feature allows quick access to the folder commonly get used and hence saves a lot of precious work time.

By default the recent places list will show the past five most recently accessed folder. Now, while this may be convenient but it can become annoying, especially when need to clear an item or entire list. Each time that open a file from Windows Explorer or from standard open/save dialog box, the name of the file opened is recorded by the operating system. Some of the names are saved into Recent folder. Others are saved into the Registry.

This utility display the list of all recently opened files, and allows deleting unwanted filename entries. Also save file list into text/html/xml file.VB.Net is a namespaces used for accessing the numbers of namespaces. The System namespaces is imported because it contains fundamental classes and base classes that define commonly used values and references data types, events and event handlers, interface, attributes as well as processing exceptions.

The System.Data.Odbc namespace is used for database connectivity. ODBC (Open Data Base Connectivity) connection is used for database connectivity. The aim of ODBC is to make it possible to access any data from any application, regardless of which DBMS.is handling the data. ODBC is standard database access method developed by SQL Access group in 1992.

II. LITERATURE SURVEY

Computer networking is considered as a part of electrical engineering, telecommunication, and computer science, information technology since it relies on theoretical and practical application. Computer network is a collection of hardware components and computers interconnected by communication channels that allows sharing of resources and information. Communication protocols are defined as rules and data format used for exchanging information in computer network [9].

In 1950s, early networks of communicating computers included the military radar system Semi-Automatic Ground Environment (SAGE).

In 1960s, the commercial airline reservation system semi-automatic business research environment (SABRE) which went online with two connected mainframes.

In 1964, researchers at Dartmouth developed the Dart mouth Time Sharing System for distributed users of large computer systems.

In 1965, Thomas Merrill and Lawrence G. Robert created the first wide area network. The first widely used telephone switch that used true computer control was introduced by Western Electric in 1965 only.

In 1969, the university of California at Los Angeles, the stand ford Research Institute, University of California at Santa Barbara, and the University of Utah were connected as the beginning of the ARPANET network using 50 k bit/s circuits.

In 1972, Commercial services using X.25 were deployed and later used as an underlying infrastructure for expanding TCP/IP network.

III. NETWORK ADMINISTRATOR

NETWORK ADMINISTRATOR IS A PERSON FROM high level of technical staff in an organization and will rarely be involved with direct user support. The network administrator will concentrate on the overall integrity of the network, server deployment, security and ensuring that the network connectivity of company's LAN/WAN infrastructure.

The role of Network Administrator will vary in different circumstances but will commonly include activities such as network address assignment, assignment of routing protocols and routing table configuration as well as configuration of authentication and authorization (directory services) [12].

A Network Administrator is a person responsible for the maintenance of computer hardware and software that comprises a computer network. This normally includes deploying, configuring, maintaining and monitoring active network equipment's[13].

IV. RECENT FILES VIEW

Each time that you open a file from Windows Explorer or from standard open/save dialog box, the name of the file that you opened is recorded by the operating system. Some of the names are saved into the recent folder. Others are saved into the Registry. This utility display the list of all recently opened files, and allows deleting unwanted filename entries. Also save file list into text/html/xml file.

The recent opened files list is stored in 2 places:

a) Recent Folder: The recent folder is usually located under C:\Documents and Settings\[Your Profile]\Recent (The path is different under Windows Vista), and it contains shortcuts to the recently opened files.

b) Registry:-Each time that a file is selected in save/open dialog-box, the filename is added to the files list under HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\ComDlg32\OpenSaveMRU.

V. GOALS OF PROPOSED SYSTEM

Efficient and successful Monitoring and Controlling systems are designed to satisfy most of the possible goals from following:

- Performance: On Hybrid platforms, one pays only for what one uses, so the vendor price increases linearly with the requisite scope, network bandwidth and computer power. Hence system performance has direct effect on cost. Thus efficient system performance is a crucial requirement to save money.
- Availability: Must be accessible even in the condition where there is a network failure. The concept of Communication as Service supports such requirements as well as network security and network monitoring.
- Fault Tolerance: The system must be able to recover from a failure without losing any data or updates from recently committed operations.it must properly commit operations and make progress for workload.
- Elasticity: The system must be able to satisfy changing application requirement in both directions and gracefully respond to these changing requirements and recover to its normal state.
- Scalability: The system must be able to carry very large traffic with high request rate and low latency. Handling more nodes should not affect software functionality.
- Maintain functionality in any circumstances: It is close to impossible to get homogeneous performance for hundreds or more computer nodes.
- View Recent places: The system must show the last log record. As the earlier opened or saved files must be recorded by system and shows these records whenever required to the Network Administrator.

VI. PROPOSED SYSTEM

This software application is consist of two parts as Server and Client. The server should be installed in Windows XP or greater computer configuration. The server agent software consists of main features to fetch information from network.

To make a client system, will install Client Response Agent Software. To establish a connection need to write the IP Address of PC where Server Agent is already installed. So whenever request comes from Server Agent, Client Server responds by providing the relevant information.

The various Network functions are ---

- User friendly environment
- Attractive Visual Interface
- Remote Desktop Application
- Chat window system
- Shows Recently opened files
- Remote Task Manager
- Real time Operating System
- Hybrid Network Support
- No need of separate server OS
- Record of Activities in Recent folder and Registry
- Application Authentication
- Control on Shutdown/Restart/Log off

VII. METHODOLOGY

"Hybrid LAN Monitoring and Controlling" deals with developing a Networking Software. It provides the Network Administrator with providing Network features. This system in implemented using 2-tier approach, with backend database and Visual Studio 2010 as the front end client. This contains implementation technologies such as Visual studio.NET, VB.NET as a programming language, SQL Server, Access as Relational Database.This is a Real time Operating System which will be used to take Run Time Error also.This software uses following technologies as front end and back end.

A. Front End:

VB.NET: To design the other GUI interfaces with the program Logic Embedded in VB.NET code.

B. Back End:

SQL Server 2008 would be used for storing and retrieving data from the databases as per requirement.
1) Software:
− Environment: VB .NET
a) TCP/IP Drivers
− Requirement: .Net Framework 3.5
2) Hardware:
a) Environment:
  − Windows XP
  − LAN
  − Computer systems(min 2)
  − Wireless Router
b) Requirement:
1) Server:
  − Pentium4 processor
  − 1GB RAM
  − 2GB HDD
  − 2Server Board
2) Client:
  − Pentium2 processor
  − 512 RAM
  − 1GB HDD
3) Modules:
− Server
− Client
− Recent places
4) System Actors and Functionality:
a) Server:
− Authentication
− Control activities of client
− Updates user
b) Client:
− Take authenticity from server
− Request service from server
− Send and receive messages
c) Recent places:
− View recently opened files in Recent folder.
− Record a Log file in Registry.

VIII. ADVANTAGES

This software provides the high level or enhances security. It is more reliable than peer to peer network. With this system back up of data become easier. Log files are recorded for post operations. Unlike various LAN monitoring software this software application does not require technical staff/ person. This software is very flexible and also contains basic requirements.

IX. CONCLUSION

Thus Centralized administration software is created which is basically used for Monitoring and controlling various computers of organization. This software helps to make a use of various resources in an efficient ways. Also Record and View recent activities on client's computer system. Thus it removes drawbacks of earlier system and developed a user friendly environment. Also creates separate LOG files for records which enhance the performance and security purposes.

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