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## Remote Administration Software

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**Abstract-** Remote monitoring and control (M&C) systems are designed to control large or complex facilities such as factories, power plants, network operations centers, airports, and spacecraft, with some degree of automation. This software aims at providing High Performance administration system. A sincere effort is made to design and deploy these application software so that anybody who is computer literate can access it and operate with ease and make benefit through it. This project is developed to provide remote network auditing function.

**Keywords-** Remote Network Audit, Reverse shell,

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### I Introduction

Remote administration refers to any method of controlling a computer from a remote location. Software that allows remote administration is becoming increasingly common and is often used when it is difficult or impractical to be physically near a system in order to use it. A remote location may refer to a computer in the next room or one on the other side of the world. Any computer with an Internet connection, TCP/IP or on a Local Area Network can be remotely administered. Usually, both systems should be connected to the internet, and the IP address of the host/server system must be known.

When the world is moving towards cloud and ubiquitous computing, the factors availability and accessibility are being viewed as the axis of technology. When taking into consideration the development of new technology, these are the factors that drive the methodology used. Therefore, the focus of the project is to create a Remote administration Software that can aid in remote management of computers and systems, keeping in mind the ease of mobility and accessibility. As the name suggests, this program can be used to administer and control a device or devices in a network, remotely over internet. The project can find effective implementation in the field of network management and network security. To cope up with growing cyber threats, this project is being developed as security as the top priority.

Remote administration program is developed to access or control a machine situated at a different location. This application is useful to access files and other documents that are located in another machine. It provides remote control on the machine as if the user is on a local machine. It is useful for system administrators and computer experts to diagnose the machine remotely and solve software related issues without physically being present. It can connect to any machine situated anywhere in the world through internet. This software is being developed in order to deliver to the clients a customized software that helps in remote administration, debugging and monitoring of systems located across the globe. It basically solves the problem of having physical access to the machine in order to use it.

### II Literature Survey

This paper by originally demonstrates the misuse of application permissions on Android OS in order to obtain a reverse shell on the target/victim device without the need of superuser rights or root privileges. The paper used a Live Wallpaper application to track users location and upload it to the remote server. This paper has been used as a base for the project because the concept of reverse shell is being used in the project and is the most integral part. A reverse shell is a type of shell in which the target machine communicates back to the attacking machine. The attacking machine has a listener port on which it receives the connection, which by using, code or command execution is achieved. [1]

The paper deals with designing process of the distributed web application suitable for remote operations and maintenance within the Remote Maintenance Shell (RMS) environment. The maintenance of communication software that is distributed over the network is a complex task due to the fact that it is difficult and sometimes even impossible to perform modification and verification on a target system which is remote, and especially on a target system which is currently in operation. Software installation, modification and verification without suspending regular operation, isolation of software under maintenance in order to prevent side-effects influencing regular operation, as well as the support for performing all these operations remotely, are serious problems. [2]

Remote desktop access is typically used for remote access to the corporate network servers, workstations, while bring convenience, it has also brought on the security issues in the audit. In this paper, a proxy-based security audit system is provided. it can effectively monitor the operation and maintenance of the RDP, VNC, X11 session, while providing the replay function for the operation and maintenance. Managing more and more equipment has become the challenge of enterprise information construction . More importantly, enterprises lack the auditing methods of operation by maintenance person. Once the operation and maintenance errors occurred, not only auditors are unable to analyze the operation of user which caused the error, but also auditors can't locate exactly who take mistakes during the operation and maintenance. This paper solves the problem by introducing a way to remotely audit enterprise networks. [3]

This paper introduces the application of the client/server(C/S) mode ,the concept and the programming principle of the socket based on C/S. The method of software design for the communication between the client ,server-process using the socket mechanism is mainly analyzed, and gives examples of connection-oriented service program. The transmission layer can provide connection-oriented to use TCP protocol, connectionless-oriented to use UDP protocol. There are two different kinds of services with different kinds of sockets. The paper consists of Client/Server mode, Client/Server structure that the project implements. Sockets and its programming are used for communication. Two main operations of sockets are mentioned here Connection-oriented service and connectionless service, of which connection-oriented TCP sockets has been used. The basis of exchange is communication software between client and server. [4]

### III System Overview

System overview contains process flow, flowchart and working of the system.

#### A .Process Flow

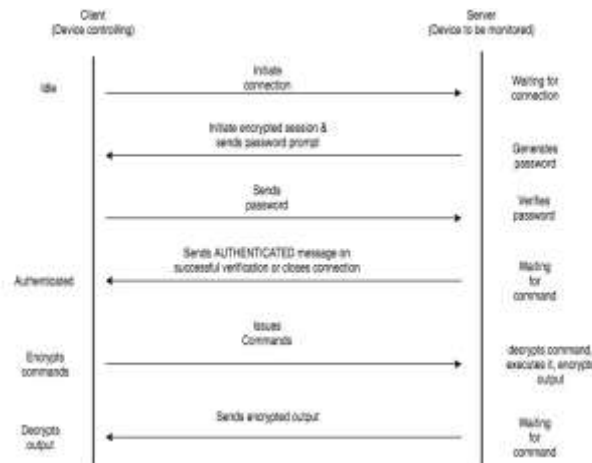


Fig 1.Flowchart

According to Fig 1, the process flow is as follows:

1. Client initiates a connection with the server.
2. The server awaiting for connection accepts connection, initiates an encrypted channel and send the password prompt to the client.
3. Client sends the randomly generated password to the server.
4. Server verifies the password and if the password is correct a new session is initiated else server aborts the connection.
5. From this point the server waits for the command that is received from the client, which is processed and the output is sent back to the client.

#### B. Working

It uses low level networking interface called sockets which are the endpoints of a bidirectional communications channel. It implements clients and servers using connection-oriented protocol by accessing the basic socket support in the underlying operating system using socket module. Pywin32 is used for interacting with windows. It serves set of extension modules that provides access to many of the Windows API functions. Subprocess modules are used to spawn new processes. In this case it is used to create a shell that is used to

accept remote commands that can run native OS commands. PyCrypto is used for encrypting the data by implementing the AES algorithm. Block size of 32 is being used. A salient feature of this software is the ability to Audit Networks remotely. A complete network audit can be performed remotely without being physically present in the network and a report can be generated alternatively. For this purpose the software contains suite of tools capable of scanning, enumerating and discovering of network devices and services. It can check for possible misconfigurations, information leakage, vulnerable services, firewall policies and much more. The payload for each test is downloaded on demand which makes the software less memory consuming without having to store the database of tests. This project aims to be a swiss army knife for network administrators and network auditors. A thorough report will be generated and displayed on the server screen.

#### IV Expected result

The program is compiled into a portable application that serves as the client as well as the server. The users can choose from the options whether the program should act as a server (that should be controlled) or a client (that controls a remote device). The software needs to be installed on both the local and remote machines.

The client must know the IP address and the password in order to start a session, both of which are generated at the server side. The client and the server are so programmed that the traffic between them uses AES encryption, in which a symmetric key is either generated automatically or can be set explicitly upon the agreement of both parties. The client initiates a connection request which is received by the server. Server generates a random password and sends a password prompt to the client.

The client sends the password, which is verified by the server. If the password is correct server opens a connection else the connection is closed. Upon a successful verification, the server waits for commands from the client. Client can send either a native OS command which will be executed through the shell, whose output is sent back to the controller or the client. This uses the concept of reverse shell. Or the client can also issue application specific commands like download or upload of files, take screenshots, diagnostic commands etc. Native commands are issued through calling subprocess, a feature that can spawn a child process and communicate with it to obtain output.

#### V Conclusion

Using remote administrator tools for remote administration of computers running will greatly reduce the administrative overhead. Administrators can access the servers from anywhere, be it inside the computer room. They will be able to start time-consuming administrative jobs, disconnect, a later time to check the progress. Server application and operating system upgrades will be completed remotely, as well tasks that are not usually possible unless the administrator is sitting at the console. Server file system tasks such as copying large files and virus scanning are much more efficient when performed within a remote tools session, rather than using utilities that are executed on a PC client. Remote administrator tool will be an affordable tool that any small business owner can purchase without having to consult his accountant. Companies offer very flexible licensing policies for Remote administrator tool that cover multiple computers at minimal expense. Remote administrator tool has no special hardware requirements. Even if home computer is in used for running a business, it's fast enough for Remote administrator tool. If the computer runs Windows, Remote administrator tool will run on it, and it will run faster than any other remote control software that one can buy. An evaluation is being built on existing remote administrator tools of the availability of features and is expected to be one of the important evaluations used by major high energy research. This evaluation will let customers choose their need of remote administrator tools carefully.

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