Universal Remote Installation and Administration Control

[1]S Sahana, [2]Sudhanva S , [3]Vibha R , [4]Shivraj Kumar,[5]Prema N
[1, 2 ,3,4&5] Computer Science and Engineering,
[1]NIE Institute of Technology, Mysore , India

***Abstract* - Remote administration is turning out to be progressively common and is often used when it is grueling or impractical to be substantially present near a system in order to use it, or in order to access web material that is not available in one's location. Any computer with an Internet connection or on a Local Area Network (LAN) can be remotely administered. Remote administration can be used for any cluster of activities and can span multiple categories of servers. With many administrators in the IT world, each one may have diverse needs and daily tasks. There may be some tasks that an administrator has to replicate on a frequent basis this becomes time consuming and sterile activity. Connecting to each of the systems individually and performing akin administrative activities repetitively are very time consuming and condense a person's and thereby a firm's throughput significantly.**

***Keywords*–Remote installation, Administration control, Service monitoring**

I. INTRODUCTION

Remote administration is turning out to be increasingly common and is often used when it is difficult or impractical to be physically near a system in order to use it, or in order to access web material that is not available in one's location. Any computer with an Internet connection, TCP/IP or on a Local Area Network (LAN) can be remotely administered. Remote administration can be used for any cluster of activities and can span multiple categories of servers, such as database servers, middle-ware servers, etc. With many administrators in the IT world, each one may have different needs and daily tasks. There may be some tasks that an administrator has to repeat daily on a frequent basis this becomes a time consuming and unproductive activity. To quote as an example, a server administrator might need to start and stop the JBoss servers several times a day. If there were one or two servers, then this would b e a simple task. What if there were a number of servers, like 30 or 40 servers that need to be started at different times? Connecting to each of these contrasting boxes individually and performing similar type of administrative activities over and over again will be gulping down the time and reduce a person's adeptness and thereby a firm's productivity significantly.

II. LITERATURE SURVEY

Pre boot execution environment.

Pre boot Execution Environment (PXE) refers to various methods of getting a computer, typically running Windows, to boot-up without the need for a hard drive or boot diskette. The methods evolved from the era before computers had internal disk drives .Encompassing this concept we can have packages being installed on to the client machines deprived of actually copying them on to the hard drive.

Distributed Virtual Machines.

A virtual machine is a software, like a physical computer, runs an operating system and applications. The virtual machine is comprised of a set of specification and configuration files and is backed by the physical resources of a host. The perception can be extended to client-server architecture so as to setup a virtual client-server and cut down preservation and the setup of client and server.

Remote Desktop Utility

In computing, the term remote desktop refers to a software or operating system feature that allows a personal computer's desktop environment to be run remotely on one system, while being displayed on a separate client device. Remote desktop applications have varying features. Some allow attaching to an existing user's session and remote controlling, either displaying the remote control session or blanking the screen. Taking over a desktop remotely is a form of remote administration. The aforesaid concept is used in accessing the client system for configuration from the server.

Universal remote boot and administration service

Windows services can be configured to start when the operating system is started and run in the background as long as Windows is running. Alternatively, they can be started manually or by an event. Windows NT operating systems include numerous services which run in context of three user accounts: System, Network Service and Local Service. These Windows components are often associated with Host Process for Windows Services. Because Windows services operate in the context of their own

dedicated user accounts, they can operate when a user is not logged on. The conception is used in monitoring services on the client machine and to start in case of termination due to unexplained reasons.

III. SYSTEM ANALYSIS

In the present scenario the system administrators has to stretch to the computers in person in order to access the resources and perform activities like system configuration files, installing packages, manage processes, upholding system services. If the system configuration files are to be cobbled on the network then the system's configuration can be incorporated from any computer on the network.

The paper proposes and implements how the system can be accessed by overcoming the drawback hence observed. The proposal is as follows:

- Install relevant Software on the client system without manually going to the system.
- Monitor the services that running on the client system.
- Manage the processes on the client machine by starting a new process ,kill the unwanted process to enhance the system performances.

IV. SYSTEM DESIGN

Server Side Module

Server selects the from the list of IP addresses and invokes procedure calls on the client machine using the remote package module where in a reference is created and given to the server using which the server invokes calls on the client.

Client broadcasting module

Clients intimate server broadcasting themselves with their IP address which are online on the network so that server identifies them and the admin is free to select them for controlling and monitoring.

Remote Package module

This module is used to call procedures on the client machine from the server using the concept remote procedure calls.

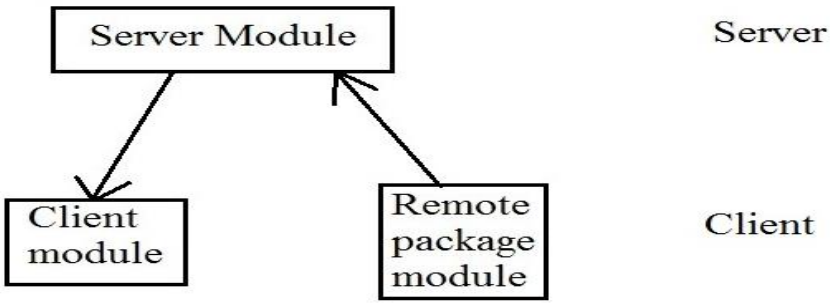

Fig 1 System Design Overview

V. IMPLEMENTATION

Virtual client-server architecture is fabricated. The connection between a client and a server is first established by creating and registering a TCP channel between client and server. The clients create a thread and start broadcasting their IP address to facilitate the identification from server. Subsequently the server binds itself with one of the clients the remaining cannot get the access, thus a one to one connection is authenticated. The client and server use different ports for input and output respectively.

A set of procedure calls are defined and invoked on the client machines to perform the specified operations like fetching machine name, running processes, service states, boot-up time using environment variables in consort with the concept of remote procedure calls where in a reference to each of these procedures is created and used by the server to invoke. Each of the above mentioned operations are carried out as events likewise event log is updated.

A process in the background is set to run at the system boot on the client which gives a reference from the above stated module, allows the system resources to be accessed by the server. The Microsoft installer package(*.msi) which is to be installed on the client systems are shared over the network, when the install command is issued the client takes up from the shared path and finally performs silent installation. The important services as desired by the system administrator can be marked with the intention of owing to some in explicable reasons if the service stops the administrator is intimated to his/her email by making use of Simple Mail Transfer Protocol (SMTP). The system administrator is free to start the service again remotely on the client. The running processes on the client is procured from the client machine to the server, any undesirable processes running can be killed from the server by entering the process-id associated with each of the processes running. The garbage collection is clutched out finally at the termination.

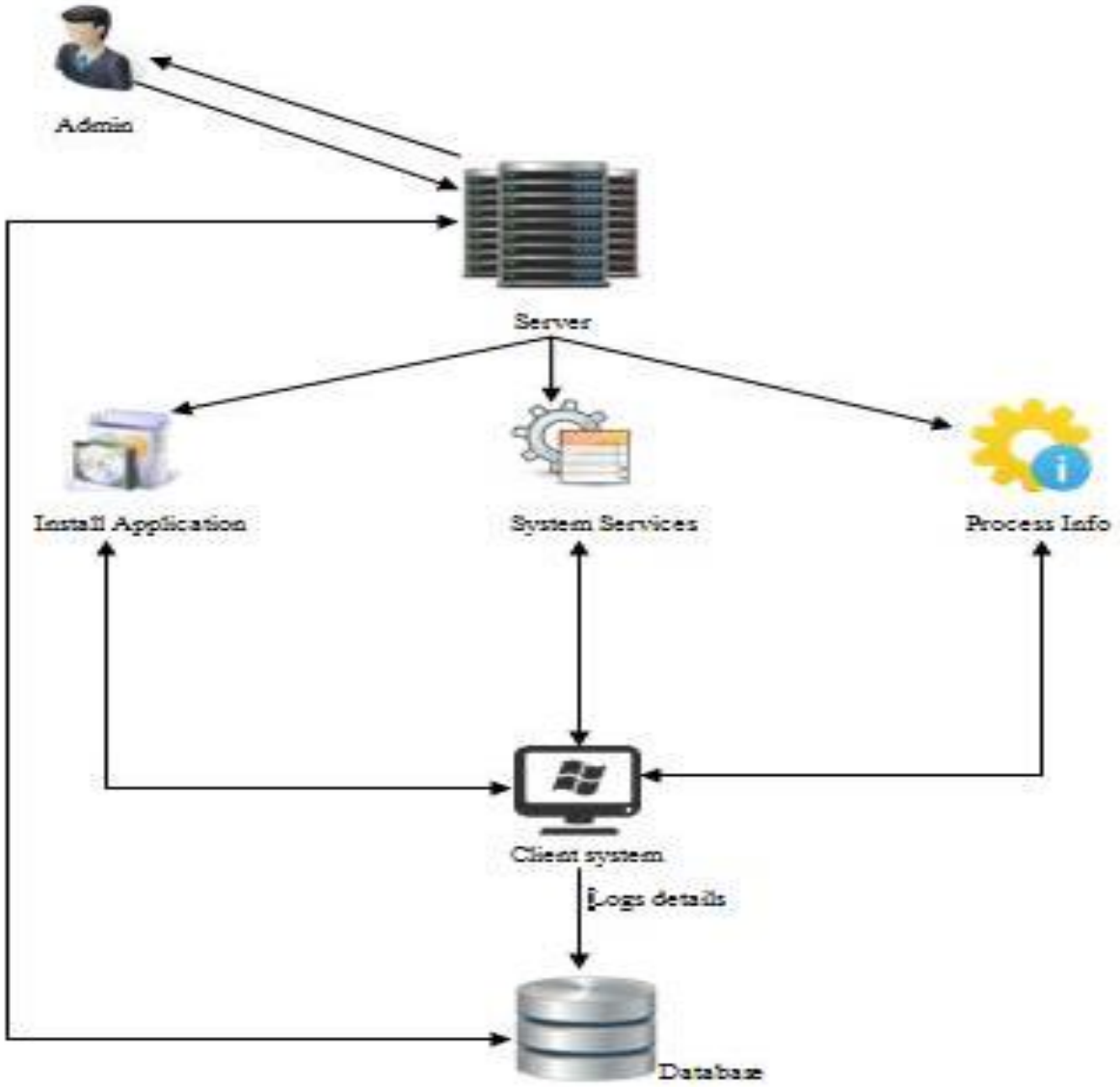

Fig 2 Implementation overview

CONCLUSION AND FUTURE ENHANCEMENT

The project aspires to provide the organizational administration in any corporate field, an application that can allow the admin to access the client system remotely for installing software, monitoring services and killing any unwanted processes running on client system for the betterment of its organization development and reduce man power along with time consumption.

The system has following drawbacks which will be our future enhancements,

- Incompatible with linux operating system.
- An application once installed cannot be uninstalled.

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