Teranet Test V6.1

Feature Document

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Teranet Test

Teranet Test is a solution developed for the detection and assessment of grey international calling routes. It is a web enabled application that is highly serviceable and feature-rich, and is specially designed to perform automated testing by executing live calls on an operator's network. It is an integrated system to carry out comprehensive call testing in all types of networks. The system currently provides support for all networks (i.e. wireless and wire line). Calls are executed in real-time by adding a test number and configuring each call. When each call is configured and run, the result of each call is reported and logged in the database. These reports can be easily viewed by the using the client interface for any remote machine.

The diagram below outlines the architecture of Teranet Test v6, which includes N remote and N client machines with a centralized database.

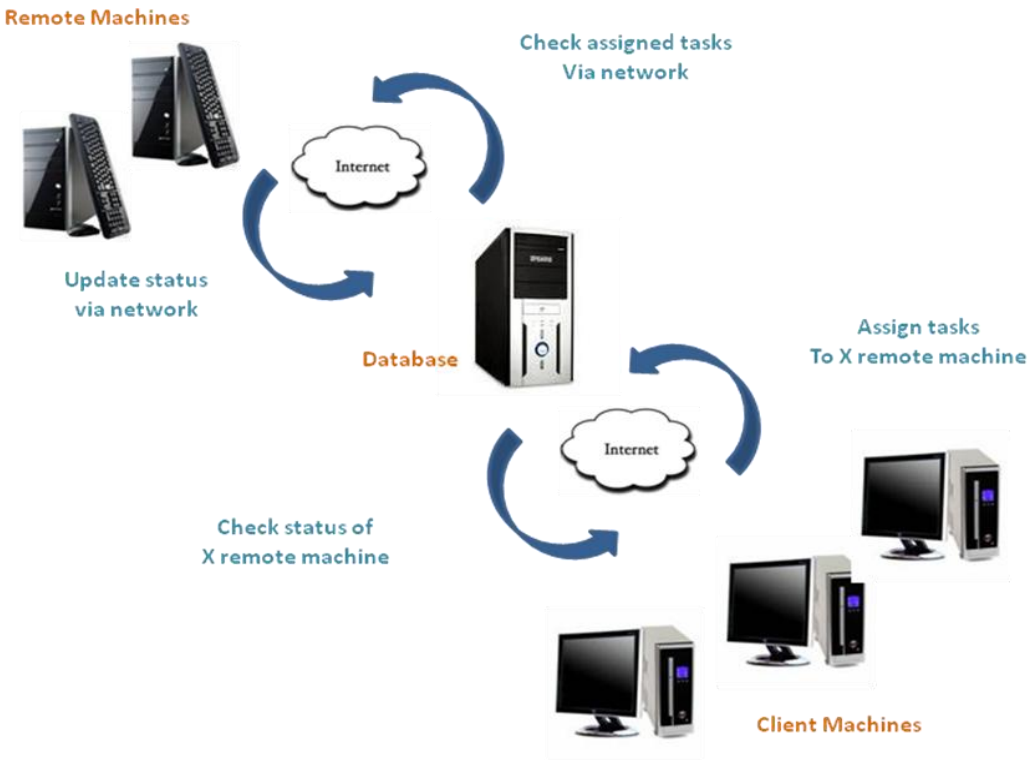

Figure 1 : Teranet Test Architecture Diagram

The web enabled version client machines are used for managing different modules of applications including maintaining a repository for test numbers, calling routes, and creating

configurations. In addition it is used for jobs running the call setups, assigning jobs to different remote machines, terminating or pausing the running activities on remote machines, and checking the status of remote machines, as well as activities to be performed by remote machines.

Remote machines will be used for performing the actual test calls. These machines are used for pulling their relevant jobs from the database, performing activities assigned in jobs, maintaining the call logs and finally updating their status.

Teranet Test Features

- Application security.
- Account management.
- Project management.
- Test numbers.
- Configuration management.
- Enhancements in scheduler.
- Supports multiple machines.
- Self registration of remote machines
- Separate Interfaces for remote/client machines.
- Assignment of jobs.
- Centralized database.
- Reporting.
- CallerID Parser.

1. Application Security:

Teranet Test allows valid users to access the system through their user login and passwords. Upon access to the system the user will be able to use the functionality according to the privileges assigned by the administrator.

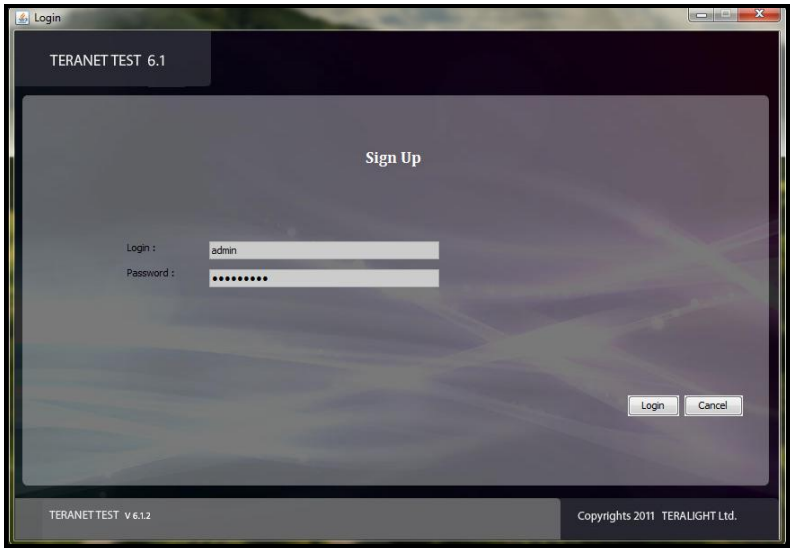

Figure 2 : Login Screen

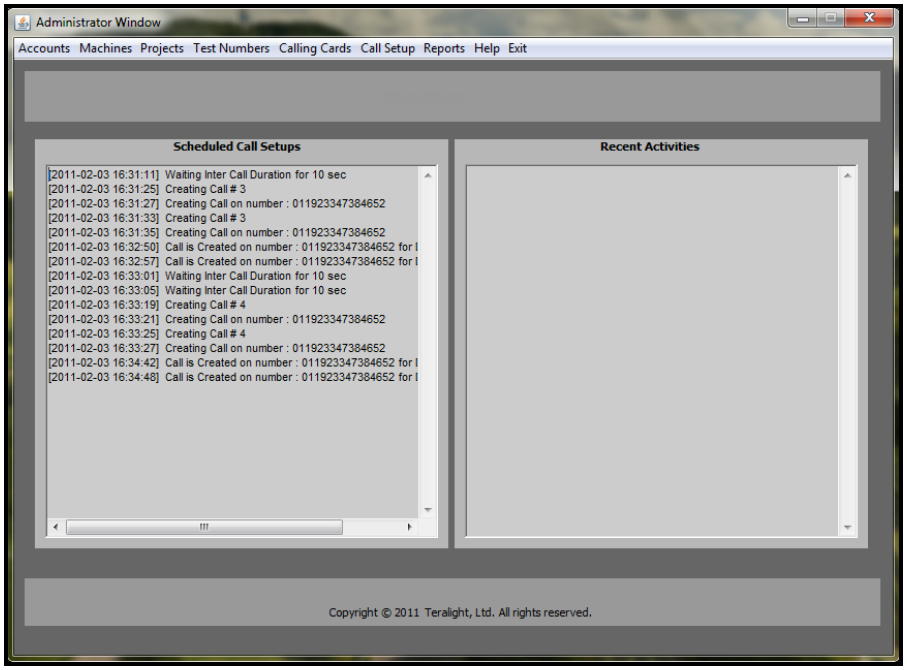

Figure 3 : Teranet Test Application

2. Account Management:

Teranet Test provides three types of roles to users. According to those specific roles users are provided access to the functionalities.

- **Administrator**

  These are the users with predefined administrative roles that have access to every function. The administrator can mange user accounts, manage projects, manage system settings, manage test numbers, manage routes, manage reports and manage call setup.

- **Supervisor**

  These are the users without administrative roles having restrictive privileges, which includes usage (running) of call setups, editing of both types of durations, and scheduling of call setup. Apart from these functions the supervisor will have limited access to the remaining functions such as view projects, view system settings, view test numbers, or view routes.

- **Agent**

  These are the users without administrative roles having restrictive privileges and can only view the information related to different features.

3. Projects:

Projects are used to categorize the features. Projects are mainly referenced to our customers using the system. Moreover test numbers related to a specific project can be used for the same types of configurations. The administrator will provide a project name and project description to add a new project in the application.

4. Test Numbers:

Test numbers are added to make calls on specific numbers. The Administrator has the right to add a test number to the application/system. Test numbers are those numbers to which the calls are generated. These numbers can be wireless and wire line.

5. Configuration Management:

To execute a call setup, the administrator should add one or more configurations. The configuration includes the detail of routes and test numbers in a specific project. Configuration is used to add or view the details of a specific call setup. Administrator can add a new configuration, view its details, and run the setup. The supervisor has limited privileges and is restricted to only view and run a specific configuration of the system.

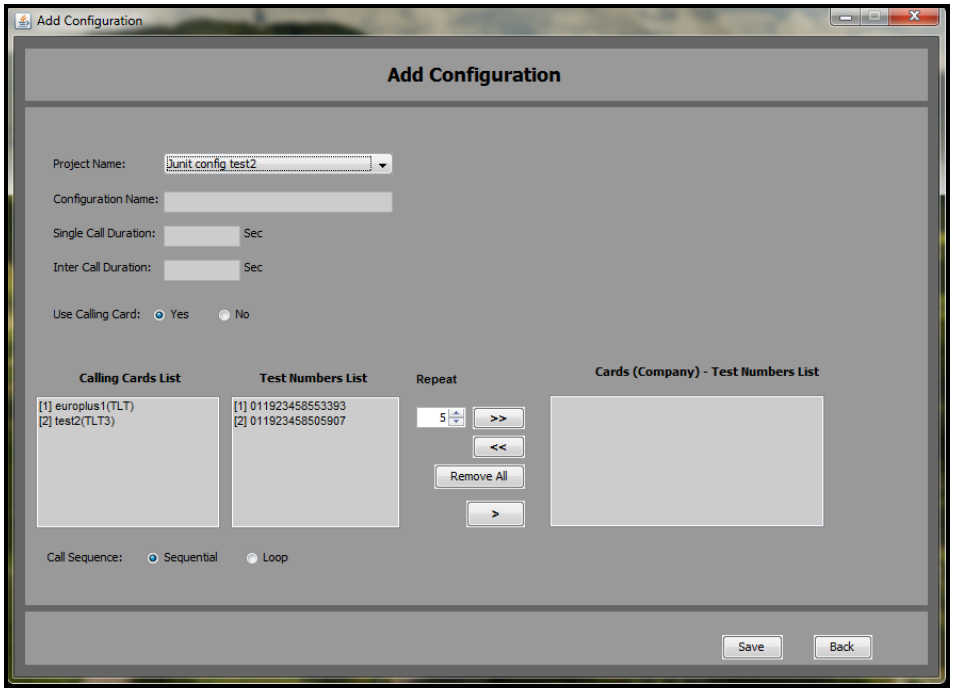

Figure 4 : Add New Configuration

6. Enhancements in Job Scheduler:

Job scheduler can be used for assigning jobs (having activities) to different remote machines. These jobs can be either scheduled on the basis of once, daily, weekly or after x specific hours. In the previous versions scheduler was designed to support jobs scheduled on the basis of once and daily only.

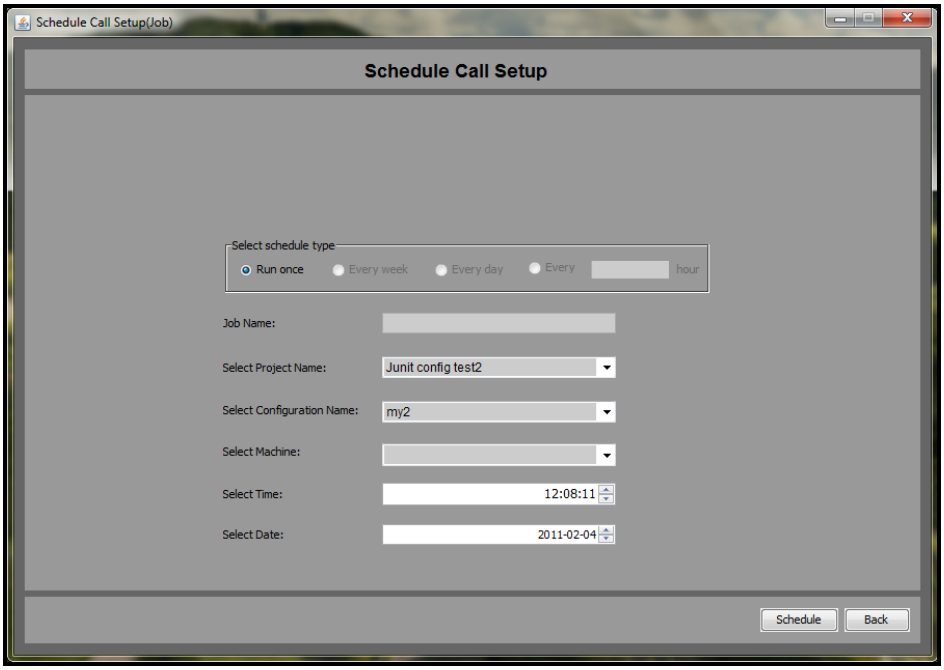

Figure 5 : Job Scheduling

7. Supports Multiple Machines

The system supports N numbers of client as well as N number of remote machines. As one machine (remote) can perform a single activity at one time, increasing the remote machines allows the process of test call activities to be executed in parallel. Thus multiple remote machines can be controlled either by single or multiple client machines.

8. Self Registration of Remote Machines

Remote machines will register themselves so that the client machines can assign jobs to them according to their availability. When remote machines make themselves registered with the system, these machines can appear on the client side for assignment of jobs. Whenever these

remote machines are free these machines check their assigned jobs in a regular way, execute these jobs after pulling them from the database and maintains the status in a periodic way and repeats the same process every time.

This process will be started when the remote application will start its execution (on remote machine) and ends when the application is stopped. However, for making remote machines remain in contact with the system (database), the remote side application must be in a running state.

9. Separate Interfaces for Remote/Client Machines

Separate interfaces are designed for the client as well as remote machines. Applications configured on the client side can be used for maintaining the test numbers, calling routes, configurations, jobs (used for execution of call setups on required remote machines). Applications configured on remote machine will be used for performing test calls according to the jobs assigned and also updating the status currently active job.

10. Assignment of Jobs to Remote Machines

Jobs can be assigned to remote machines by using the client interface. Thus a minimum one client machine can be used for not only assigning but also viewing the status of jobs to multiple remote machines.

11. Centralized Database

Data collected from different machines and maintained in such a way that it can be easily available to all machines provides business advantages and avoids the complexities of application architecture.

12. Reporting

The database is maintained in a centralized way so information can be displayed in the form of reports and can be accessed from every client machine, (depending upon the rights assigned to the user).

Reports can be used to get the details of call setups created and used (run) by the users. It is maintained in the form of call setup history. Reports can be accessed by all users. Teranet Test has different types of reports that are generated depending upon the requirement of the user. The details of the reports are provided below;

1. ***Configuration Detailed Report:*** -shows details of the configuration. The report can be viewed according to a specific configuration or according to all configurations of a project.
2. ***Configuration History Detailed Report:*** -shows details of the configuration on the basis of configuration start date. Configuration history detailed reports can be viewed according to a specific configuration of a project.
3. ***Configuration History Detailed Report by Date:*** -configuration history detailed report by date can be viewed according to the start date of the specific configuration of a project.
4. ***Scheduler Detailed Report:*** User will be given two options to view reports.
    a. ***Once Schedule Jobs:*** -this report will display all those jobs which were scheduled once in a day.
    b. ***Daily Schedule Jobs:*** -this report will display those jobs which were scheduled on a daily basis. User is given an option to select all the jobs or specific jobs from the application.
5. ***Configuration summary report:*** Configuration summary report shows the summary of the configurations in the application.
6. ***Configuration History Summary Report:*** Configuration history summary report shows the summary history of the configurations in the application.
7. ***Suspected Number Report:*** Suspected number report displays the suspicious numbers generated by the system.
    a. ***Daily Suspected Number Report:*** Daily suspected number report displays the suspicious numbers on daily basis.
    b. ***Weekly Suspected Number Report:*** Weekly suspected number report displays the suspicious numbers on weekly basis.
    c. ***Monthly Suspected Number Report:*** Monthly suspected number report displays the suspicious numbers on monthly basis.
8. ***Total Number Report:*** Comprehensive number report displays the details of all the numbers of the system.

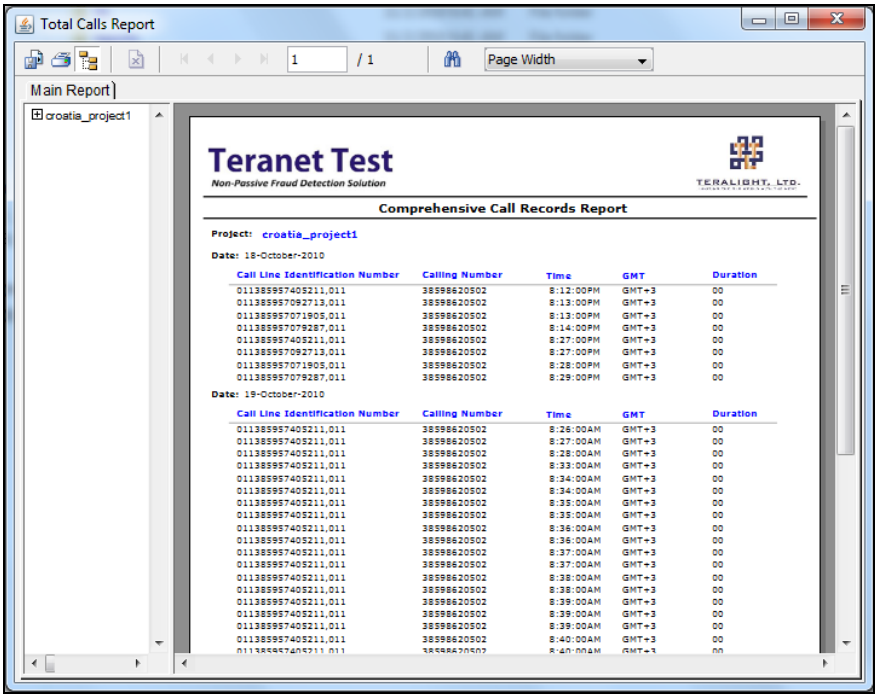

Figure 6 : Report

13. CallerID Parser

CallerID parser is a desktop application that is used to parse and import the exported data of the CallerID into a database. For the examination and processing of exported data we use parsers in the Teranet Test application. Using this data, the user creates different reports for the Teranet Test application.

Before parsing data, the parser takes input from the user. The user provides the IP address, user name and password of the database. The user will then be able to connect to the database with custom configurations. In addition the user could connect to a database existing on remote machines on a network. The file data is created according to the current GMT; the preferred GMT is selected according to the one which the customer requires for the report. The data is converted to the preferred GMT. User also provides the file name which is to be inserted into the database.

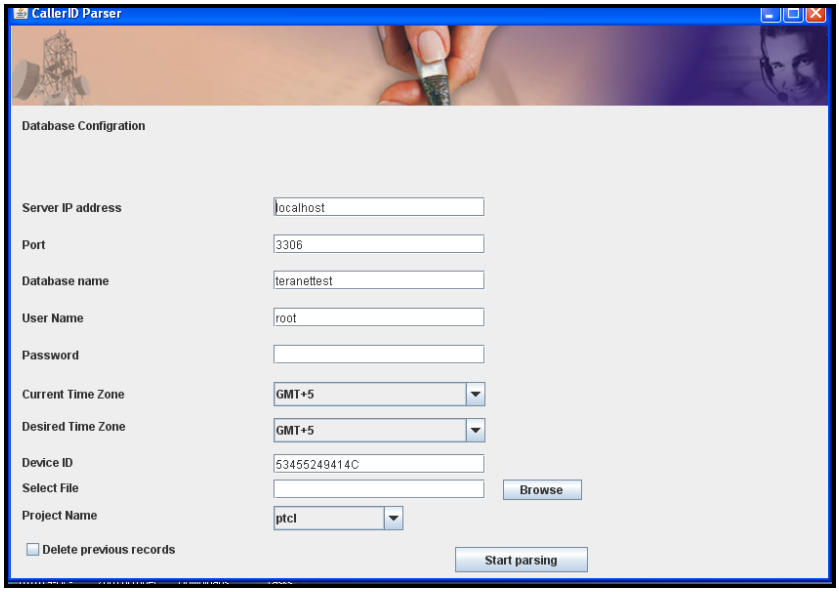

Figure 7 : Caller ID Parser

Once these criteria are defined, the application begins to parse each line of the selected file, executes some operations and then imports it into the database. If any CDR includes some abnormal data, it is written in a text file instead of the database. Upon the completion of parsing, a pop up window is displayed which shows the number of CDR's inserted in the database.

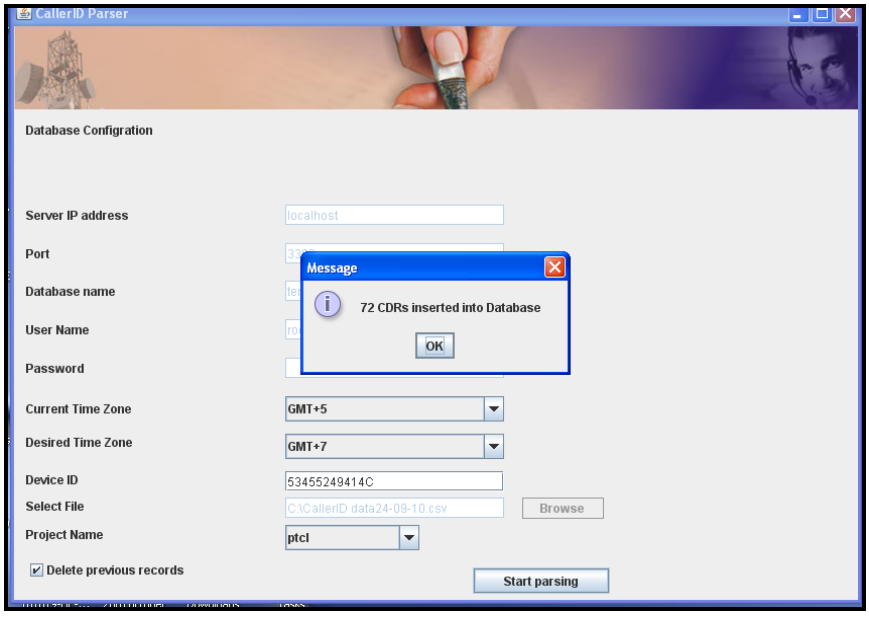

Figure 8 : Successful Insertion in the Database