

# Statement of Work

## Project Definition

### Statement of Understanding

Remote Access Equipment (RAE) system is to be used for remotely testing, diagnosing and controlling Platform Under Test (PUT).

- RAE system (running Linux+Apache) collects commands from user through web interface
- RAE sends the commands to PUT device (running MSDOS) through RS232
- PUT simulates keyboard input under MSDOS to execute commands received
- PUT captures output (text format) and send it back to RAE through RS232
- RAE displays PUT output to user on web

Deliverables include:

- RAE Web application running on RAE device (Linux+Apache)
- DOS TSR application running on PUT device (MSDOS)
- All source code and technical documents for RAE web application and PUT application
- Detail software installation guide for RAE and PUT devices

Environment requirements are shown in table below:

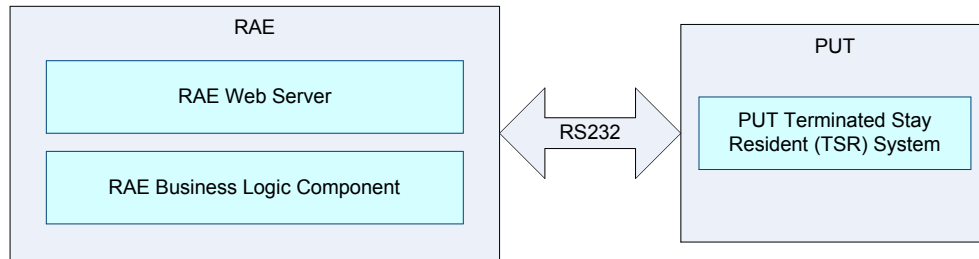
Environment	Requirements
OS platform	Linux (RAE) MSDOS (PUT)
Web server	Apache (RAE)
Internet Browser	IE, Firefox

## Proposed System Architecture

Remote Access Equipment (RAE) system is composed of three sub-systems or components:

- PUT Terminated Stay Resident (TSR) System

- RAE Web Application
- RAE Business Logic Component



### ***PUT Terminated Stay Resident (TSR) System***

This subsystem is to be running on PUT, which is running MSDOS operating system.

This subsystem implement RS232 communication layer, application communication layer, PUT keyboard simulation, and PUT output (text format) capture.

### ***RAE Web Application***

This component is to be running in Linux and Apache environment on RAE.

This component collects command from user and display output from PUT.

### ***RAE Business Logic Component***

This component is to be used by RAE Web Application. The functions include RS232 communication layer, application communication layer.

## **Proposed Development Tools**

Development Language	TBD
Development IDE	TBD

# Major Functional Areas

## PUT Terminated Stay Resident (TSR) System

PUT TSR system listens on specified COM port, receives command send from RAE device, simulates keyboard input for the command and captures output of PUT device after executing the command.

- RS232 communication layer (server)
- Application communication layer
  - Pack/unpack application defined package
  - Compress/uncompress application defined package
- PUT keyboard simulation
- PUT output capture (text format)

## RAE Web Application

RAE web application is UI for:

- Collecting command and send to PUT device through RS232 connection
- Displaying result that received from PUT device through RS232 connection

Diagram below show the screen for collecting command and displaying result.

The diagram shows a web application interface with the following elements:

- A label "Enter command:" above a text input field.
- A "Send" button to the right of the input field.
- A label "Result:" above a large rectangular display area.
- A "Clear" button to the right of the display area.

## **RAE Business Logic Component**

Business logic component used by RAE web application includes:

- RS232 communication layer (client)
- Application communication layer
  - Pack/unpack application defined package
  - Compress/uncompress application defined package

## **Nonfunctional Areas**

### **RAE device**

RAE device is a computer (without display/mouse/keyboard) in a box that running Linux plus Apache web server. For easy carrying, a single board computer maybe used to make the size of the computer box as small as possible. It is required that the web server and web application should be running on any compatible PC.