

Cpr E 550:
Programming Assignment #1
Report

Due on February 14, 2015

Instructor: Professor Yong Guan

Chenguang He

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Overview

The project uses RPC to exchanges information between client and server. The server will stub all method and wait for the client connection at the beginning. When the connection established, the server will read the string pass by value from the RPC and return the result back to RPC. The client will hold and wait from the result and get back the result from RPC.

Files

1 Client.c

The Client.c file is the main file of client side. It implements RPC calls in its header file. It pass message by Socket. It design as a loop and keep promoting user to enter the command. It calls RPC function to server side and wait for the result. It has seven methods:

1. Current Date
2. Current Time
3. Current Date + Time
4. Current CPU usage in server side
5. Current Memory usage
6. Current Load procs per min.

2 Data.x

The .x file is the interface of RPC. it shares between in server and client. It designs as get a long value and return a string.

3 Server.c

The server.c file is the main file of server side. It implements the RPC calls and return the values. It takes the selection from client side and return the value, the explanation of selection as following:

1. It use strftime to get the server time and return in the Date form.
2. It use strftime to get the server time and return in the Time form.
3. It use strftime to get the server time and return in the Date and Time form.
4. It calls the linux command and return the value of cpu usage in *TOP* command. The command get the return value from *TOP* and modify the string as the percentage.
5. It returns the current value of memory usage
6. It return the current load in 1min 10 mins 15mins.

How to use

The program test in the environment in *linux-3.ece.iastate.edu*. It should test in following steps:

```
rpcgen -k data.x
gcc -o cli client.c data_Int.c
gcc -o svc server.c data_svc.c
./svc
./cli localhost
select (1-7) and get result.
```