

Design Document

for

Port Forwarder Server

<Final Project>

Version 1.0

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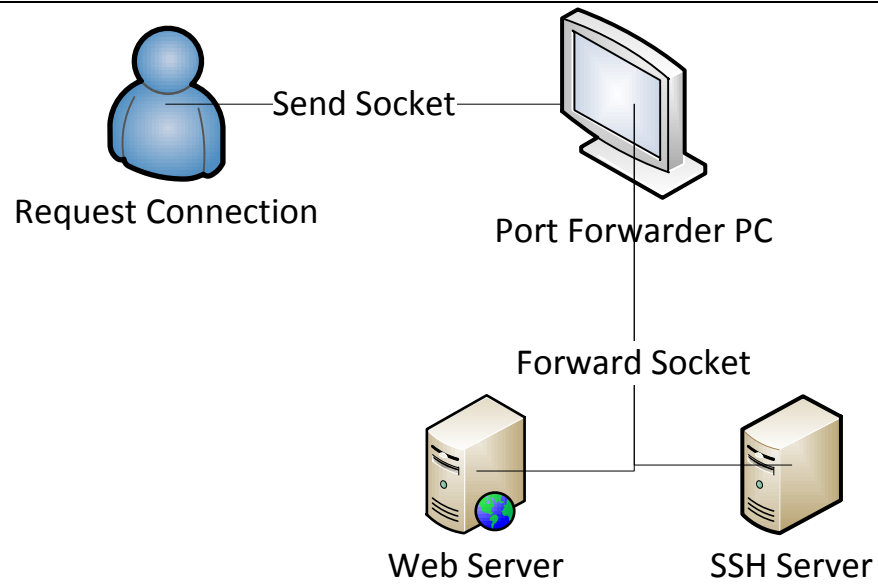
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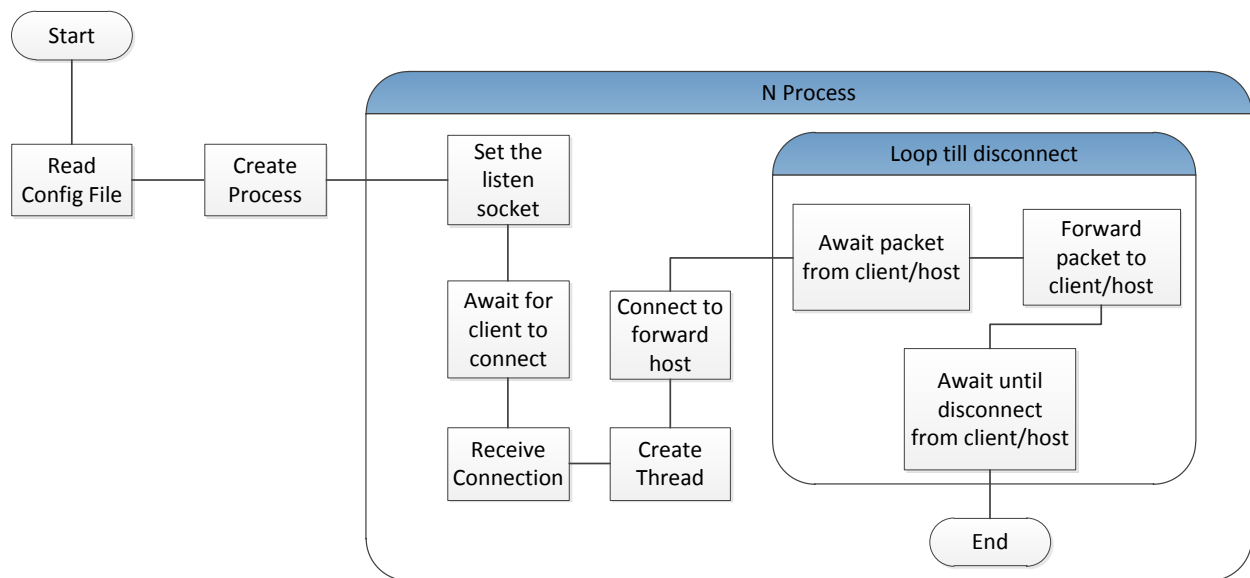
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1. Design

1.1. System Diagram



1.2. Flow Chart



The forward server would start off by reading the configuration file and determine how many processes are needed to be created. Then each process would create listen socket. Once a listen socket is created, then each process would wait on the listen socket for client to be connecting to the forwarder's processes. Client is connected to the process it would spawn a thread to handle all the data between client and forward and connect to the host, service such as SSH, http, transfer those data between them. The client pass data to forwarder and forwarder pass data into the host till either side close the connections.

1.3. Pseudocode

```
start
get max process
for n to max
    create process
    read config file
    listen on port listenPort
    await for client
    receive connection
    create thread
        connect forwardip and port
        handle all the data
        client to forwarder
        forwarder to host
    await either side close connection
end
```

2. File Listings

2.1. C Files

- 1) portForwarder.c
 - A file written in c to forward sockets according to the user's configuration
- 2) portForwarder.h
 - The header file for portForwarder.c

2.2. PDF Files

- 1) User_Manual.pdf
 - A file of instructions on how to use the portForwarder.c
- 2) Testing_Document.pdf
 - A document for test cases and the results of the test cases for the port forwarder server

2.3. Text Files

- 1) portForwarder.config
 - A file to configure the portForwarder.c settings

2.4. PCAP Files

- 1) Testing/Test 1 Echo/echo dump
 - A tcpdump to show the test cases for number 1
- 2) Testing/Test 2 Web/web dump
 - A tcpdump to show the test cases for number 2
- 3) Testing/Test 3 OOB/OOB dump
 - A tcpdump to show the test cases for number 3
- 4) Testing/Test 4 SSH/ssh dump
 - A tcpdump to show the test cases for number 4
- 5) Testing/Test 5/Multi/multi dump
 - A tcpdump to show the test cases for number 5
- 6) Testing/Test 7/listen/listen dump
 - A tcpdump to show the test cases for number 7

2.5. VSD Files

- 1) Design_Diagrams.vsd
 - A Visio file of the complete system diagram and flow chart