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Project: 4

The tarball supplied along with this file contains the following three files:

- portScanner.cpp :

This file houses the code that implements the entire functionality of the project. It contains the code to parse the command line arguments and populate certain globally accessible data structures. Also, it takes into the account the prefix that the user may choose to give instead of simply putting the IP. Furthermore, Ips may come from a text file where they are specified one after another. Additionally, multiple ports along with the range of ports may be given.

This file also contains the code to construct a packet depending on the scan technique to be used. There are other functions that send this packet to the destination, receive responses and interpret the meaning of these responses.

It consists of the logic to consolidate the results of multiple scan techniques for a single port and draw appropriate conclusion and print the formatted output.

- portScanner.h:

This file contains the pre-processor directives and globally defined data structures and variables that are required for this project. Also it contains the structures for the headers. Additionally, there are certain functions that are used to create header for packets to be sent for the scanning the ports. Further, it contains certain functions that retrieve service versions of the services running on certain ports. Furthermore, it contains a function to retrieve the source ip.

- Makefile:

This file consists of the code to compile the cpp files and clean the .o files.

Team Spirit:

Both, my project partner and I were equally up to the task. We have put in equal efforts and have contributed equally in the outcome of this project. On the basis of output produced in terms of written code, both of us have equal contribution (50 -50 each).

Acknowledgement:

Project design discussions were done on numerous occasions with the following group:

Sri Hari Vardhan Vellanki and Soumya Echuru Somasekhar.

Book References:

- TCP/IP Sockets in C: A Practical Guide for Programmers (2nd Edition)

  by Michael J. Donahoo and Kenneth L. Calvert

Web references:

- http://www.beej.us/guide/bgnet/output/html/multipage/pollman.html

- http://www.binarytides.com/dns-query-code-in-c-with-linux-sockets/

- http://stackoverflow.com/questions/4139405/how-to-know-ip-address-for-interfaces-in-c

- http://stackoverflow.com/questions/8845178/c-programming-tcp-checksum