NETWORK DESIGN PROPOSAL FOR INTERNET CAFE

A COURSE PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this mini project report "**NETWORK DESIGN PROPOSAL FOR INTERNET CAFE**" is the bonafide work of **J YASHWANTH (RA2011030010090)** and **MANOHAR REDDY(RA2011030010091), SHAIK MOHAMMED RAMIZ(RA2011030010112), ABHISHEK KUMAR(RA2011030010089)** who carried out the project work under my supervision.

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ABSTRACT

Internet café is a place that offers customers hi-speed internet access, other computer services and it is also a management software specially developed for internet centres for managing daily user's details, billing information, machine records, rate settings, transaction details, machine records and daily reports.

- The internet café we are going to construct is of consisting of 30 computers with internet support allowing people to browse.
- Internet café with 30 computers interlinked each other through the same ADSL modem
- ADSL modem is going to give the internet access to the user according to their requirements and will be billed at the end of the usage
- Every system will be installed with the web filtering software to restrict users from seeing inappropriate websites and to also avoid attackers come into the connection.
- Web filtering software will be given some website URL to block and also according to the content that users are searching.

ACKNOWLEDGEMENT

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1. INTRODUCTION

1.1 Scenario Description

Internet cafés offer the use of computers with high bandwidth Internet access on the payment of a fee. Usage is generally charged by the minute or part of hour. An Internet cafe will generally also offer refreshments or other services such as phone repair. Internet cafes are often hosted within a shop or other establishment. They are located worldwide, and many people use them when traveling to access webmail and instant messaging services to keep in touch with family and friends. Apart from travellers, in many developing countries Internet cafés are the primary form of Internet access for citizens as a shared-access model is more affordable than personal ownership of equipment and/or software.

ADSL (Asymmetric Digital Subscriber Line) is a technology that facilitates fast data transmission at a high bandwidth on existing copper wire telephone lines to homes and businesses. Unlike regular dial-up copper telephone line service, ADSL provides continuously available, always-on broadband connections. ADSL is asymmetric in that it uses most channels to transmit downstream to the user and only a small part for uploading information from the user. By 2000, ADSL connections and other forms of high-speed DSL were available in urban areas. ADSL simultaneously accommodates analog (voice) information and data on the same phone line. It is generally offered at downstream internet connection data rates from 512 kilobits per second (Kbps) to about 6 megabits per second (Mbps)

2. LITERATURE SURVEY

2.1 Overview

Project name	Network design for internet café
Objective	To build a network design for internet café with 30 computers consisting of web filtering software and runs on one ADSL connection
Problems identified	Privacy issues, Data breach, Asymmetrical speeds, filtering websites based on content
Advantages	Through internet café can provide internet facility to lower rates which helps in providing internet to the people who cannot afford computers.
Limitations	Low speeds, Data privacy
Implementation	Asymmetric Digital Subscriber Line (ADSL) is a communication technology which offers internet over older telecom lines. By using 48 port ADSL modem we are going to connect to the computers and install the web filtering software for filtering/blocking the websites according to the searched content
Novelty	influences data transmission via telephone network
Project outcomes	Earning money by charging the customer according to the time basis by using the billing systems. and also, to provide internet to all the people for low rates.
Conclusion	Finally, we can provide the internet facility to people by charging them according to their usage by ADSL billing system.

2.2 ADSL Technology

Project name	Network design for internet café
Problems Addressed/Identified	router/firewall security, Asymmetrical speeds
Objectives	The paper deals with the ADSL (Asymmetric Digital Subscriber Line) technology- the asymmetric digital telecommunication technology
Novelty/Significance	influences data transmission via telephone network
Limitations/Disadvantages	Data protection, Possible bottlenecks and low speeds
Implementation Details/Experimental Setup	ADSL runs on Telkom's copper line network. In order to install ADSL, you will need to have a normal Telkom voice line installed. ADSL runs over the normal voice line.
Findings/Conclusions	The quality of the service is significant compared to what consumers pay

2.3 Web filtering

Project name	Network design for internet café based on web filtering
Problems Addressed/Identified	Restrict the unwanted websites
Objectives	The paper deals with the web filtering Software
Novelty/Significance	influences browser to restrict the unwanted websites
Implementation Details/Experimental Setup	Web filtering is a technology stops users from viewing certain URLs or websites by preventing their browsers from loading pages from these sites. Web filters are made in different ways and deliver various solutions for individual, family, institutional or enterprise use. Ex: current ware
Findings/Conclusions	This will make internet café look like a legal.

2.4 security

Project name	Network design for internet café based on Security
Problems Addressed/Identified	Getting virus or malware from customer/users
Objectives	To avoid malware attack to computers and make them virus free.
Novelty/Significance	influences customer to make the system virus free
Implementation Details/Experimental Setup	Using security or anti-virus software by installing it in the system makes them un vulnerable. Making customers not bringing any external devices like(pen drive, hard disc) or internal functions like(downloading files of virus etc) which tends to damage of system. Ex of software: k7 security, mcafee etc….
Findings/Conclusions	This will leads to healthy and virus less systems

3. REQUIREMENTS

3.1 Requirement Analysis

From the given scenario, we draw the following requirements:

1. Identifying the appropriate hardware which would be used (Cisco Packet Tracer)
2. Users on the internet should be able to access only https on the e-commerce server.
3. Users on the internet should have access only to the public IP address of the server and not the private IP address.
4. The users in the organization should have full access to the server.
5. TCP/IP Network design with IP addressing
6. Features and configuration required on the hardware with explanation

We need to configure a network design keeping the following requirements in mind.

3.2 Hardware Requirement

From the given scenario, we draw the following requirements:

For INTERNET CAFÉ:

Hardware Required:

1x Server – PT Primary Server

3x Switches:

2x for each 15 computers

1x Primary Company Switch

30x End Devices:

30x computers(pc's)

1x cloud pt:

1x to manage all data

1x DSL MODEM :

1x dsl line for connection using phone cable

3.3 Software Requirement:

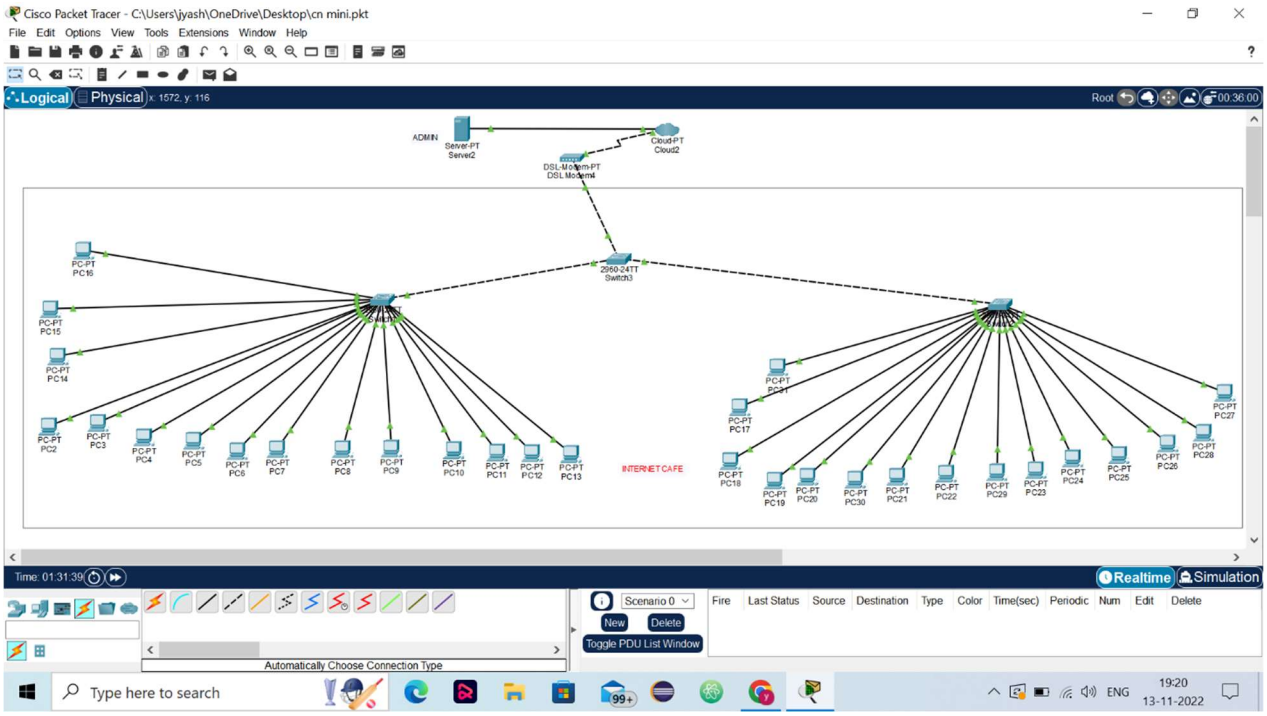
Current ware -Web Filtering Software

Cisco Packet tracer- For Architecture diagram

4. ARCHITECTURE AND DESIGN

4.1 Network Architecture

The network architecture is as follows:



The architecture consists of four major networks:

- Internet café
- Admin
- Public Internet
- Network maintained by the Internet Service Provider

5. IMPLEMENTATION

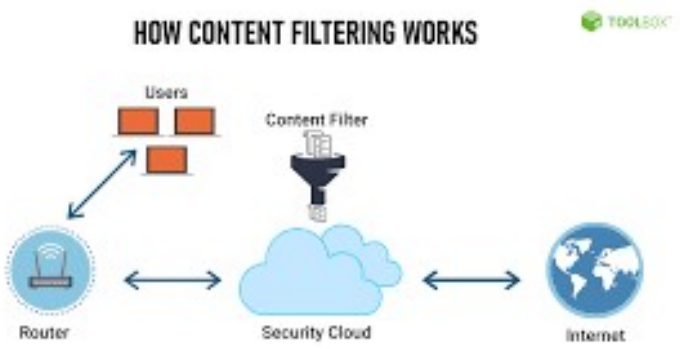
5.1 Address Table

The address table is as follows:

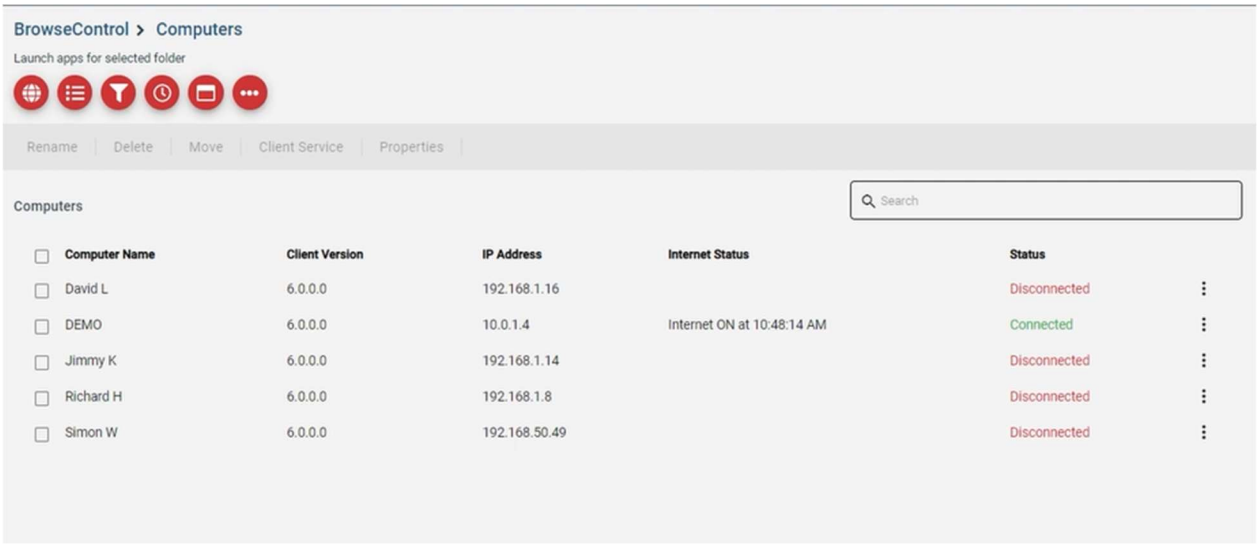
Device	IP Address	Connected with
PC2	192.168.10.5/24	switch1 fa0/1
PC3	192.168.10.14/24	switch1 fa0/2
PC4	192.168.10.27/24	switch1 fa0/3
PC5	192.168.10.33/24	switch1 fa0/4
PC6	192.168.10.24/24	switch1 fa0/5
PC7	192.168.10.16/24	switch1 fa0/6
PC8	192.168.10.21/24	switch1 fa0/7
PC9	192.168.10.34/24	switch1 fa0/8
PC10	192.168.10.22/24	switch1 fa0/9
PC11	192.168.10.7/24	switch1 fa0/10
PC12	192.168.10.9/24	switch1 fa0/11
PC13	192.168.10.12/24	switch1 fa0/12
PC14	192.168.10.29/24	switch1 fa0/13
PC15	192.168.10.18/24	switch1 fa0/14
PC16	192.168.10.13/24	switch1 fa0/15
PC17	192.168.10.4/24	switch2 fa0/1
PC18	192.168.10.1/24	switch2 fa0/2
PC19	192.168.10.19/24	switch2 fa0/3
PC20	192.168.10.31/24	switch2 fa0/4
PC21	192.168.10.8/24	switch2 fa0/5
PC22	192.168.10.25/24	switch2 fa0/6
PC23	192.168.10.6/24	switch2 fa0/7
PC24	192.168.10.30/24	switch2 fa0/8
PC25	192.168.10.3/24	switch2 fa0/9
PC26	192.168.10.11/24	switch2 fa0/10
PC27	192.168.10.15/24	switch2 fa0/11
PC28	192.168.10.28/24	switch2 fa0/12
PC29	192.168.10.10/24	switch2 fa0/13
PC30	192.168.10.26/24	switch2 fa0/14
PC31	192.168.10.17/24	switch2 fa0/15
switch1	-	switch3 fa0/1
switch2	-	switch3 fa0/2
switch3	-	DSL Modem4
DSL Modem4	-	cloud2
cloud2	-	server2
server2	192.168.10.2/24	-

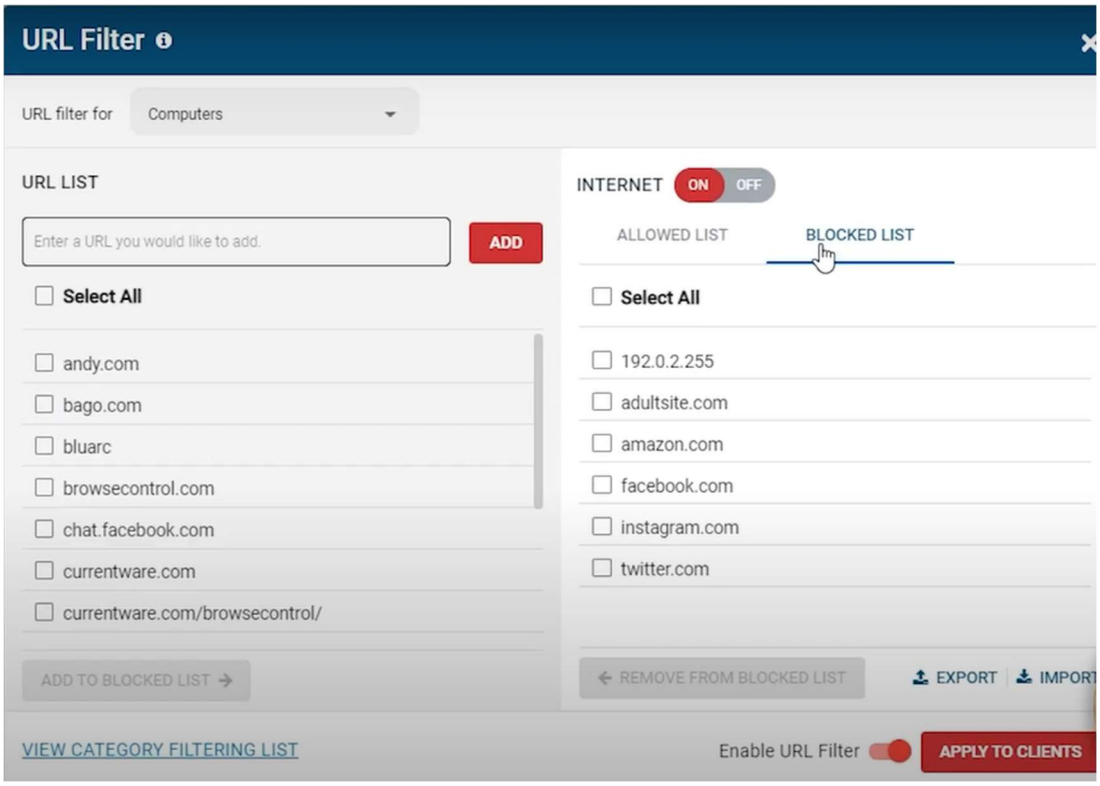
Implementation:

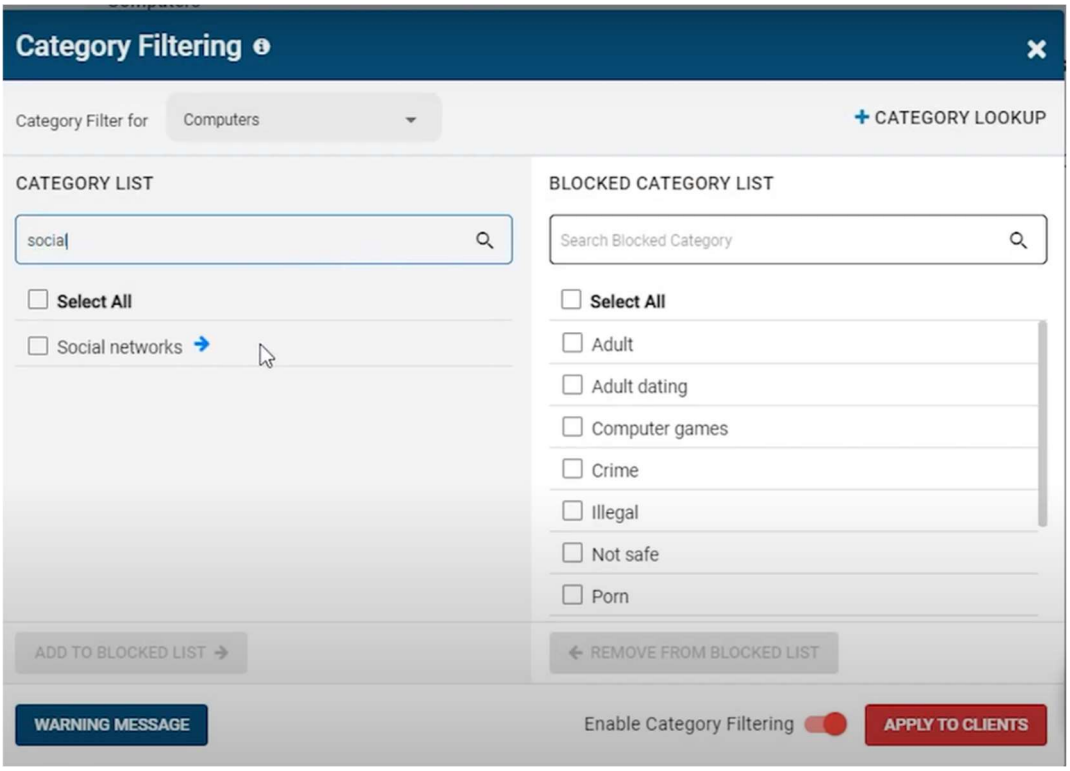
- The computers will be connected to the switch for 15pc's each and then connecting the two switch's to the one switch for making every computers as one connection.
- The switch will be connected to the DSL modem for accessing the internet connection
- Then DSL modem will be connected to the cloud this will store all the data required for the computers and about the computers.
- Everything will be connected to server which will be managed by the admin.
- The admin will be managing the websites by using web filtering software.

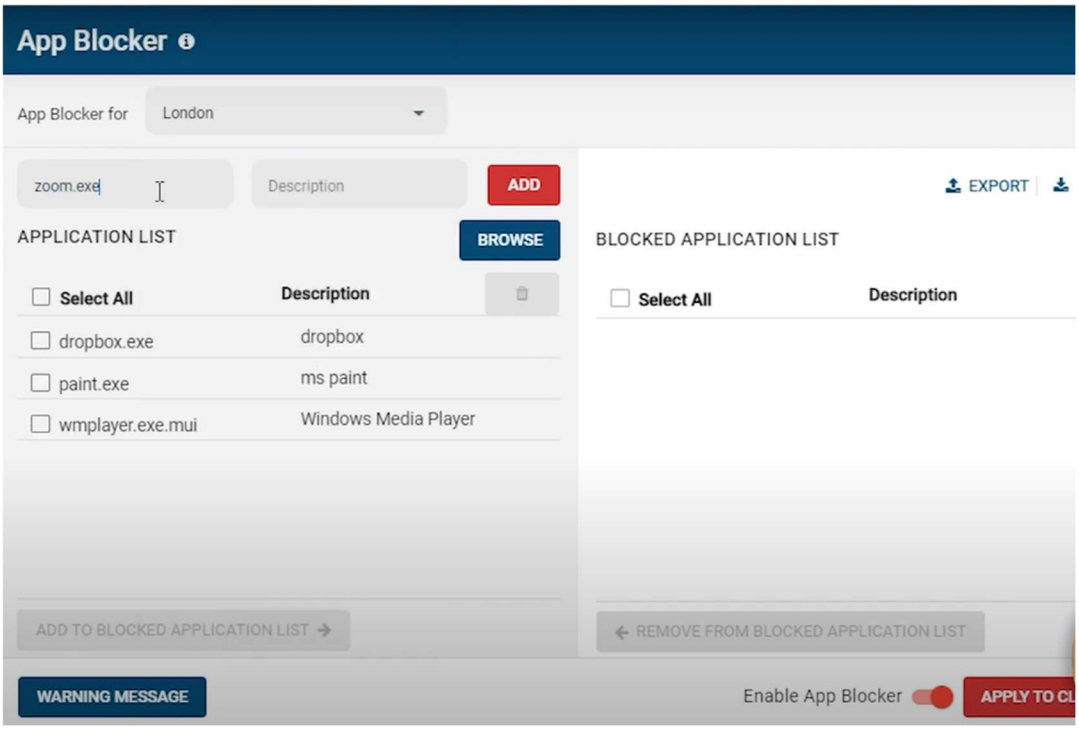


WEB FILTERING SOFTWARE:






Category Filtering
Category Filter for
Computers
+ CATEGORY LOOKUP
CATEGORY LIST
social
Select All
Social networks
BLOCKED CATEGORY LIST
Search Blocked Category
Select All
Adult
Adult dating
Computer games
Crime
Illegal
Not safe
Porn
ADD TO BLOCKED LIST
REMOVE FROM BLOCKED LIST
WARNING MESSAGE
Enable Category Filtering
APPLY TO CLIENTS

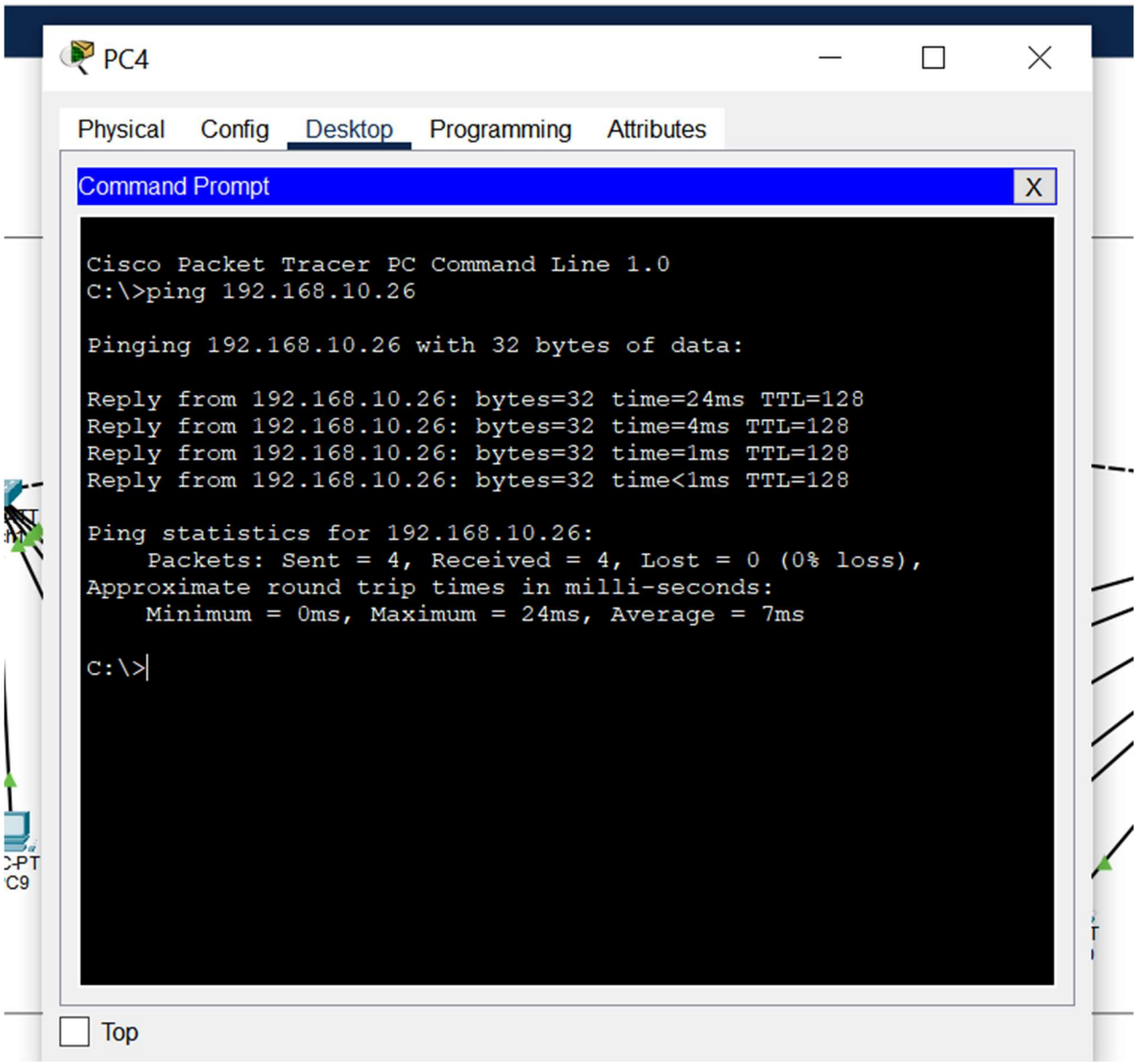

App Blocker
App Blocker for
London
zoom.exe
Description
ADD
EXPORT
APPLICATION LIST
BROWSE
BLOCKED APPLICATION LIST
Select All
Description
dropbox.exe
dropbox
paint.exe
ms paint
wmplayer.exe.mui
Windows Media Player
ADD TO BLOCKED APPLICATION LIST
REMOVE FROM BLOCKED APPLICATION LIST
WARNING MESSAGE
Enable App Blocker

6. RESULTS AND DISCUSSION

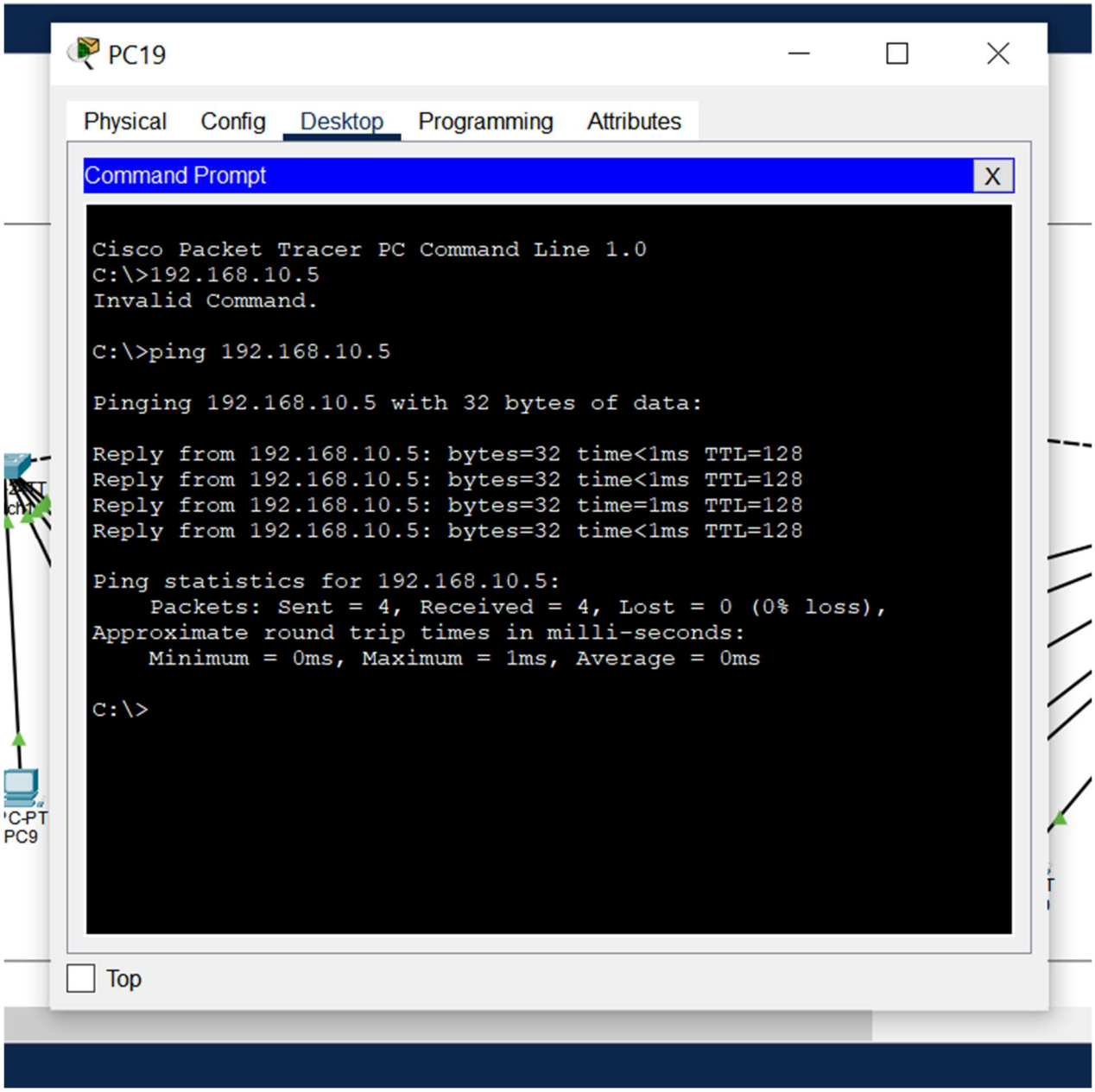
6.1 Connection Check

The network connections were checked by ping requests:

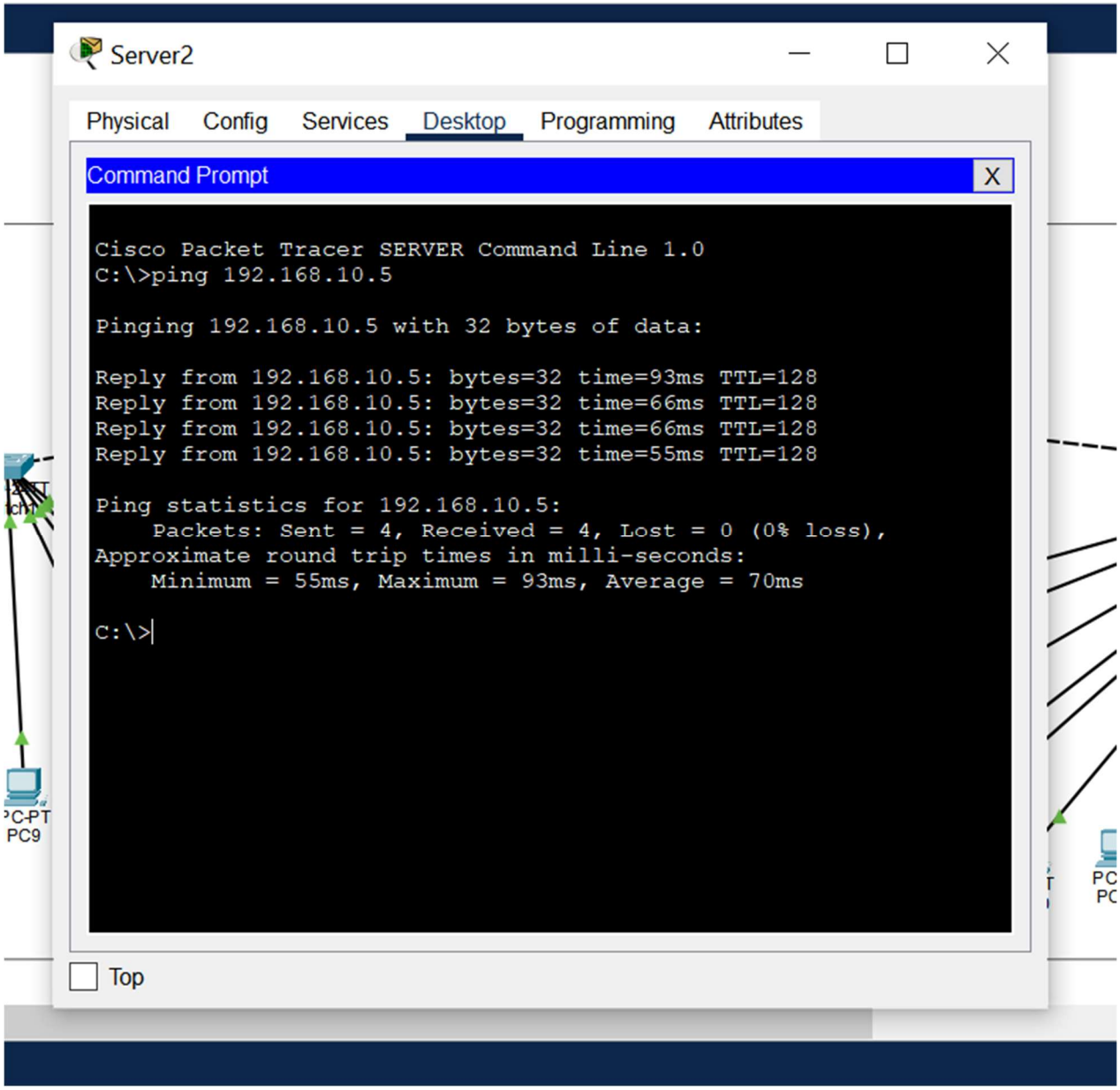
Ping from switch1 pc to switch2 pc:



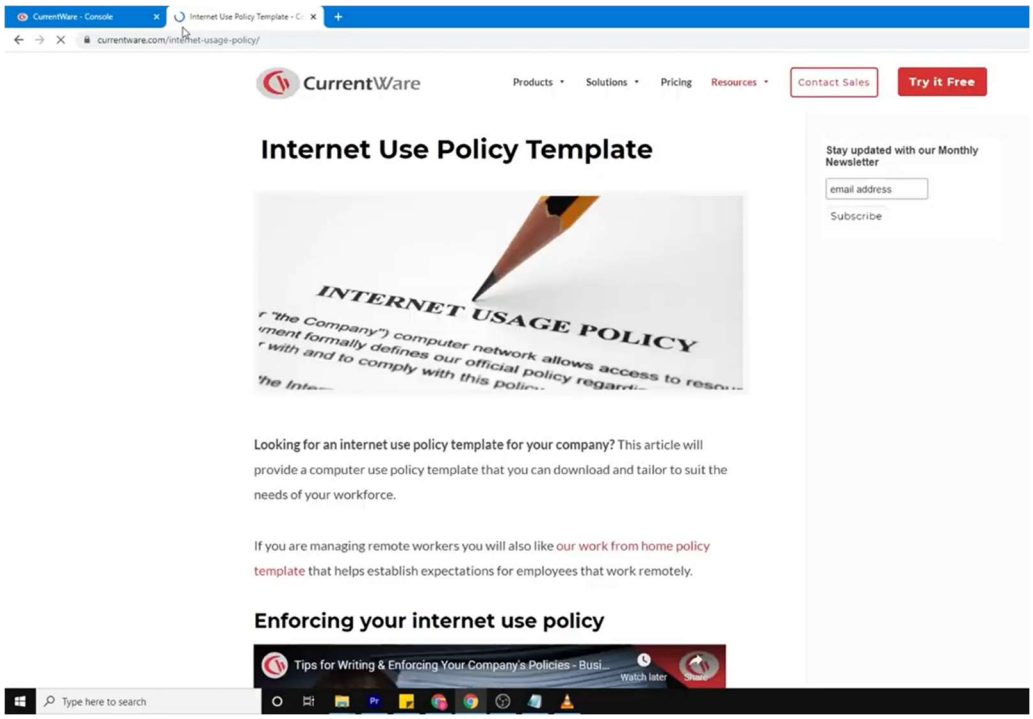
Ping switch2 pc to switch1 pc:

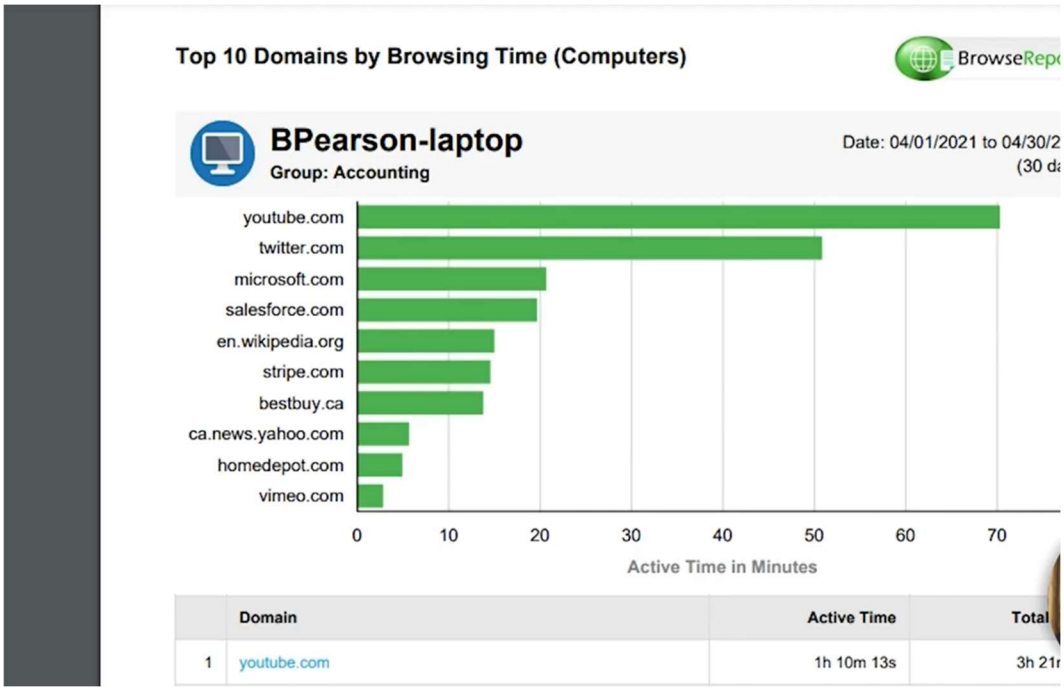


Pinging from server to any computer:



Website blocking:





7. CONCLUSION AND FUTURE ENHANCEMENT

CONCLUSION:

It works like a component which can access all the 30 computers consisting of web filtering software and picks up different functions. It overcomes the many limitations Such as Low speeds, Data privacy. Implemented Asymmetric Digital Subscriber Line (ADSL) is a communication technology which offers internet over older telecom lines.

Internet connection will be provided for every computer according to the time for the amount paid all the billing can be managed by the admin at one stretch and the access to the computer for each person will be allocated for particular amount of time the websites will blocked by using the web filtering software if the admin finds the website is inappropriate.

By this ADSL connection and web filtering software it makes the internet café manager to manage all the computers and know what are all the things going on and for what time the customer can access the computer for the paid amount.

FUTURE ENHANCEMENT:

ADSL is one of the newer DSL technologies pursued by telephone companies. The intent of DSL technology is to deliver a high performance and cost -effective way for transmitting at high speed over existing copper wires, without the need for repeaters or special line conditioning . An ADSL line consists of a pair of telephone wires and a pair of ADSL modems, with one modem installed in the telephone exchange building, and the other installed in the user's premise. The original driving force behind ADSL was to provide Video On Demand services. Telephone companies, hoping to get their shares in this thought to be enormous market, looked for ways to allow them to deliver high data rate video services. They could either replace their entire infrastructure with fiber, or they can stay with their copper. Cost and revenues had led telephone companies to implement a sequence of broadband access network topologies that end with existing copper stretched between exchange buildings or remote nodes and customer premises . One of the broadband access network topologies is of course ADSL.

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