Network Project for Teaching and Testing College

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Explanation:

The upper router (ISP) represents the internet service provider, to be able to have internet connection and to access remote servers. This network includes also 2 PCs, the one is the hacker that doesn't have any access to our servers and the other one has.

The left router (MAIN) represents the router in the first building from the previous project. It is there to show the connection between the 2 routers. We have used 2811 to be able to have IP phones.

We have created firewall inbound rules on the main router in the interface serial 0/0/1 for servers' security. Access is only allowed in http and https on server 193.219.42.97.

The right router (CyberRouter) represents the router in the Cyber Security building. Also, the router has excluded some IP addresses for not being able to distribute his own IP addresses with DHCP to other devices.

For the IP phones: They are configured to be able to talk to each other. They can call each other by pressing the correct numbers.

Also, we have distributed some private IP addresses to printers and not public, because it is not necessary to have public IPs for the printers and thus we can save some public IPs for the devices that is necessary to have public IPs

For the dhcp:

On the cyber router we have created 2 dhcp scopes for ip phones and wireless devices.

On the main router there is only one dhcp scope for ip phones

For the hacker pc:

Any access to our servers is prohibited

Cost:

- ✓ For switches: 1,525.0$ x 4
- ✓ For router: 1,395.00 $
- ✓ For PC's: 5 * 500 $
- ✓ For servers: 1550 $
- ✓ Cables: ~ 40$
- ✓ Printers: 1227.60$
- ✓ Access Point: 2489.0$
- ✓ IP phones: 360.22$ x 6

Total Price: 16862.92 $

Equipment quantity:

4 switches, 1 server, 1 router, 5 PC's, 15 cables

Type:

PT server, 2960 Switch, 2811 router, crossover, straight through, serial dte cables

Naming:

For Conf. Room we have LAN 24 and the name is CONFERENCE.

For Red Team we have LAN 11 and the name is redTeam

For Green Team we have LAN 12 and the name is greenTeam

To be able to connect IP phones we have created LAN 20 and the name is VOICE

To be able to connect printers we have created LAN 30 and the name is PRINTERS

For the WiFi (Access Point) we have created LAN 40 and the name is WIFI

For the servers we have created LAN 56 and the name is SERVERS

For the subnets:

HOSTS	NETWORK ID	1st. ADDRESS	Last ADDRESS	BROADCAST	SUBNET MASK	/ MASK	HOSTS(-2)	Location Name
56	193.219.42.0	193.219.42.1	193.219.42.62	193.219.42.63	255.255.255.192	/26	64	Conf. Room (56)
24	193.219.42.64	193.219.42.65	193.219.42.94	193.219.42.95	255.255.255.224	/27	32	ENG. (24)
23	193.219.42.96	193.219.42.97	193.219.42.126	193.219.42.127	255.255.255.224	/27	32	SERVERS (23)
18	193.219.42.128	193.219.42.129	193.219.42.158	193.219.42.159	255.255.255.224	/27	32	Assesment (18)
16	193.219.42.160	193.219.42.161	193.219.42.190	193.219.42.191	255.255.255.224	/27	32	MultiMedia (16)
10	193.219.42.192	193.219.42.193	193.219.42.206	193.219.42.207	255.255.255.240	/28	16	Admins (10)
10	193.219.42.208	193.219.42.209	193.219.42.222	193.219.42.223	255.255.255.240	/28	16	Red Team (10)
14	193.219.42.224	193.219.42.225	193.219.42.238	193.219.42.239	255.255.255.240	/28	16	Cyber Lab
6	193.219.42.240	193.219.42.241	193.219.42.246	193.219.42.247	255.255.255.248	/29	8	Green Team
?	193.219.42.248	193.219.42.249	193.219.42.254	193.219.42.255	255.255.255.248	/29	8	UNUSED