

CS581 (Computer & Network Security)

Lab-01

Date: 10/12/2015

Group No.: 05

Group Members:

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Port Scanning

Install nmap (or nmapfe) (<http://nmap.org>) port scanner onto your laptop or home computer and perform a TCP port scan and a UDP port scan of another computer. Submit reports generated by nmap (or Zenmap) containing list of open TCP & UDP ports. Also submit output of “netstat –na” command on computer that was scanned. Be sure to temporarily turn off any host-based firewall software if needed so that outputs of nmap and “netstat –na” indicate the same number of open ports.

We, Group No. 5, going to perform this lab in below steps:

Step 1: Base Machine IP Configuration

Step 2: Virtual Machine Setting Change

Step 3: Virtual Machine IP Configuration

Step 4: Downloading & Installing nmap software on Virtual Machine

Step 5: TCP Port Scanning

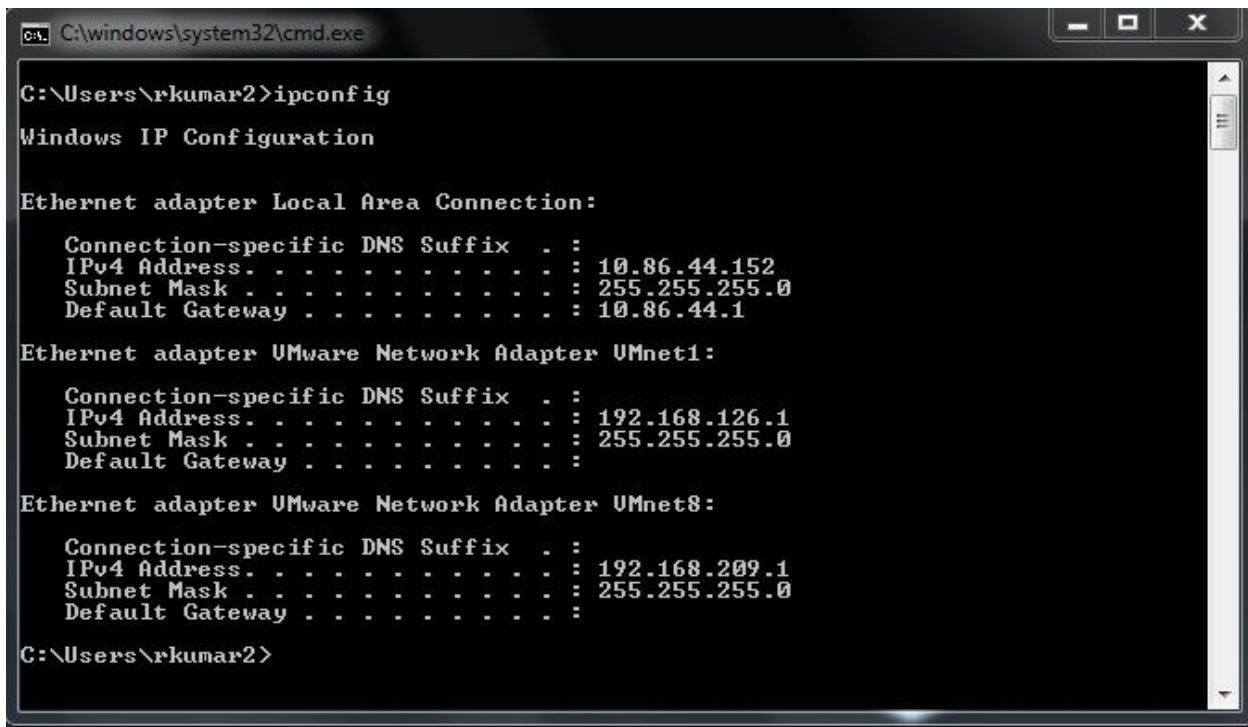
Step 6: UDP Port Scanning

Step 7: Temporarily Turned off Firewall on Virtual Machine

Step 8: Submitting output of “netstat -na” for TCP Port

Step 9: Submitting output of “netstat -na” for UDP Port

Step 1: Base Machine IP Configuration



```
C:\> C:\windows\system32\cmd.exe
C:\> C:\Users\rkumar2>ipconfig
Windows IP Configuration

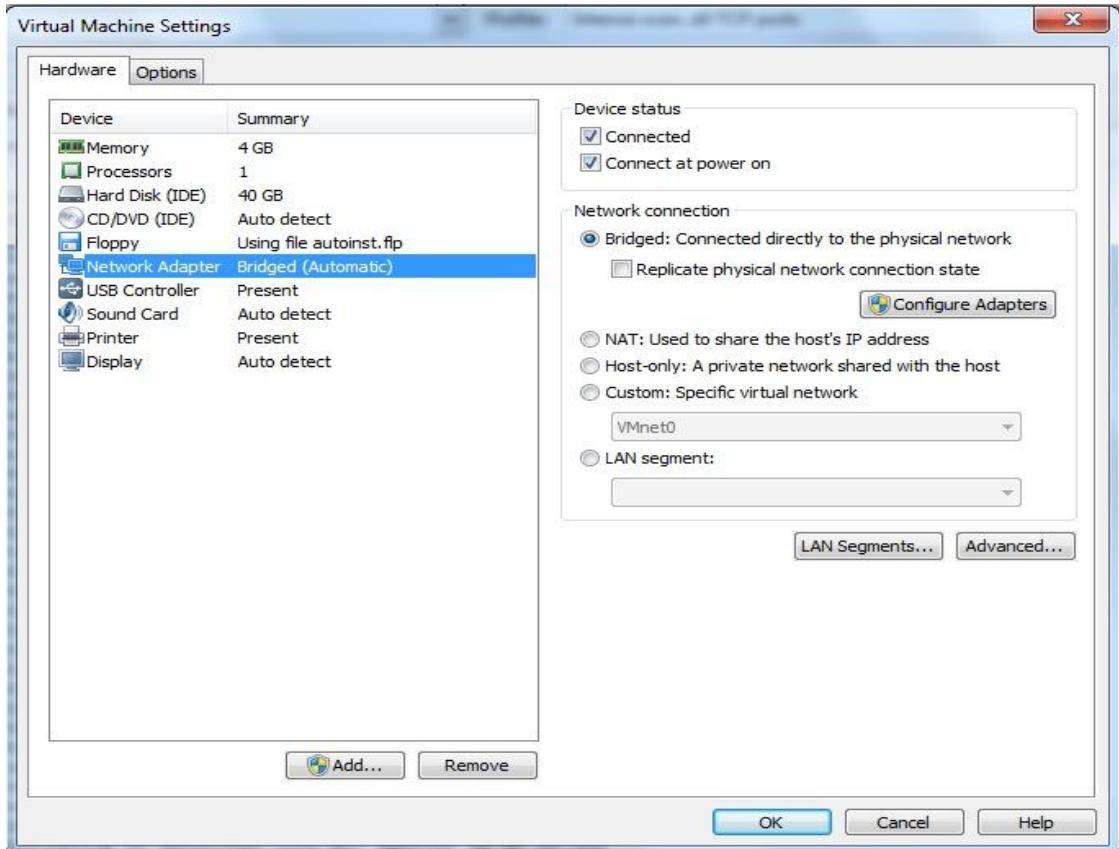
Ethernet adapter Local Area Connection:
  Connection-specific DNS Suffix . :
  IPv4 Address . . . . . 10.86.44.152
  Subnet Mask . . . . . 255.255.255.0
  Default Gateway . . . . . 10.86.44.1

Ethernet adapter VMware Network Adapter VMnet1:
  Connection-specific DNS Suffix . :
  IPv4 Address . . . . . 192.168.126.1
  Subnet Mask . . . . . 255.255.255.0
  Default Gateway . . . . .

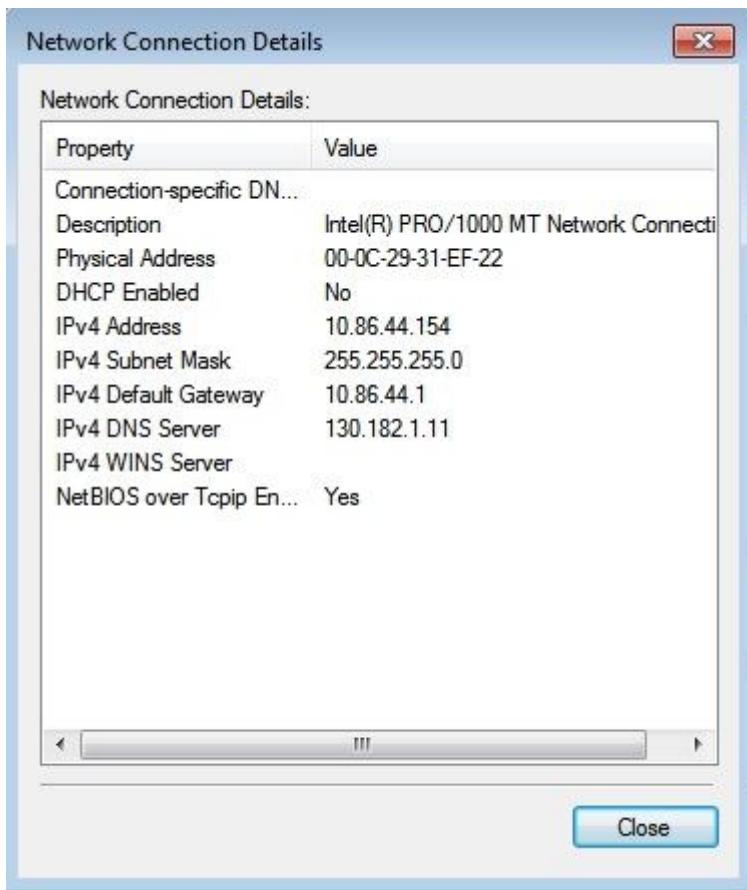
Ethernet adapter VMware Network Adapter VMnet8:
  Connection-specific DNS Suffix . :
  IPv4 Address . . . . . 192.168.209.1
  Subnet Mask . . . . . 255.255.255.0
  Default Gateway . . . . .

C:\> C:\Users\rkumar2>
```

Step 2: Virtual Machine Setting Change



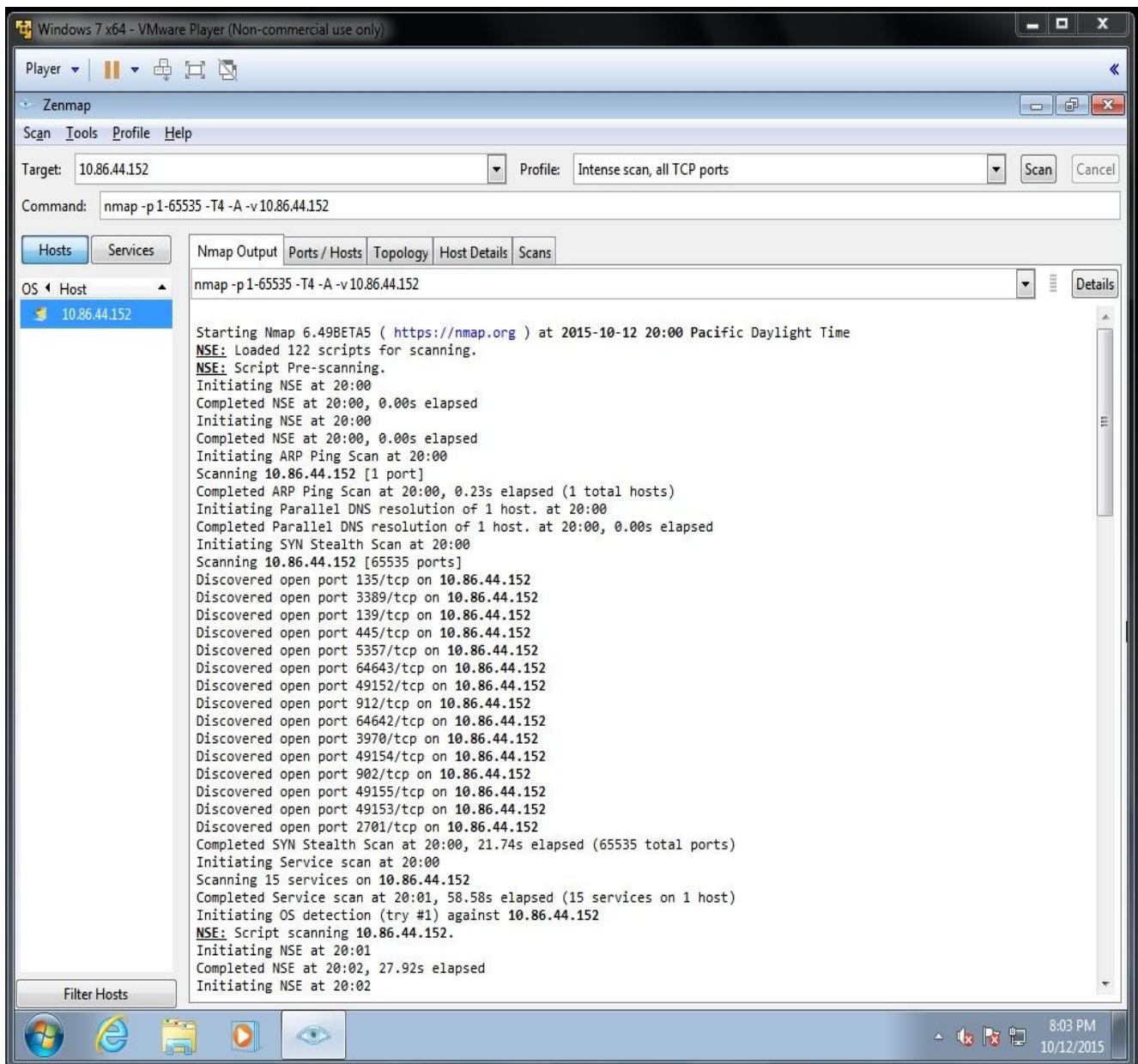
Step 3: Virtual Machine IP Configuration

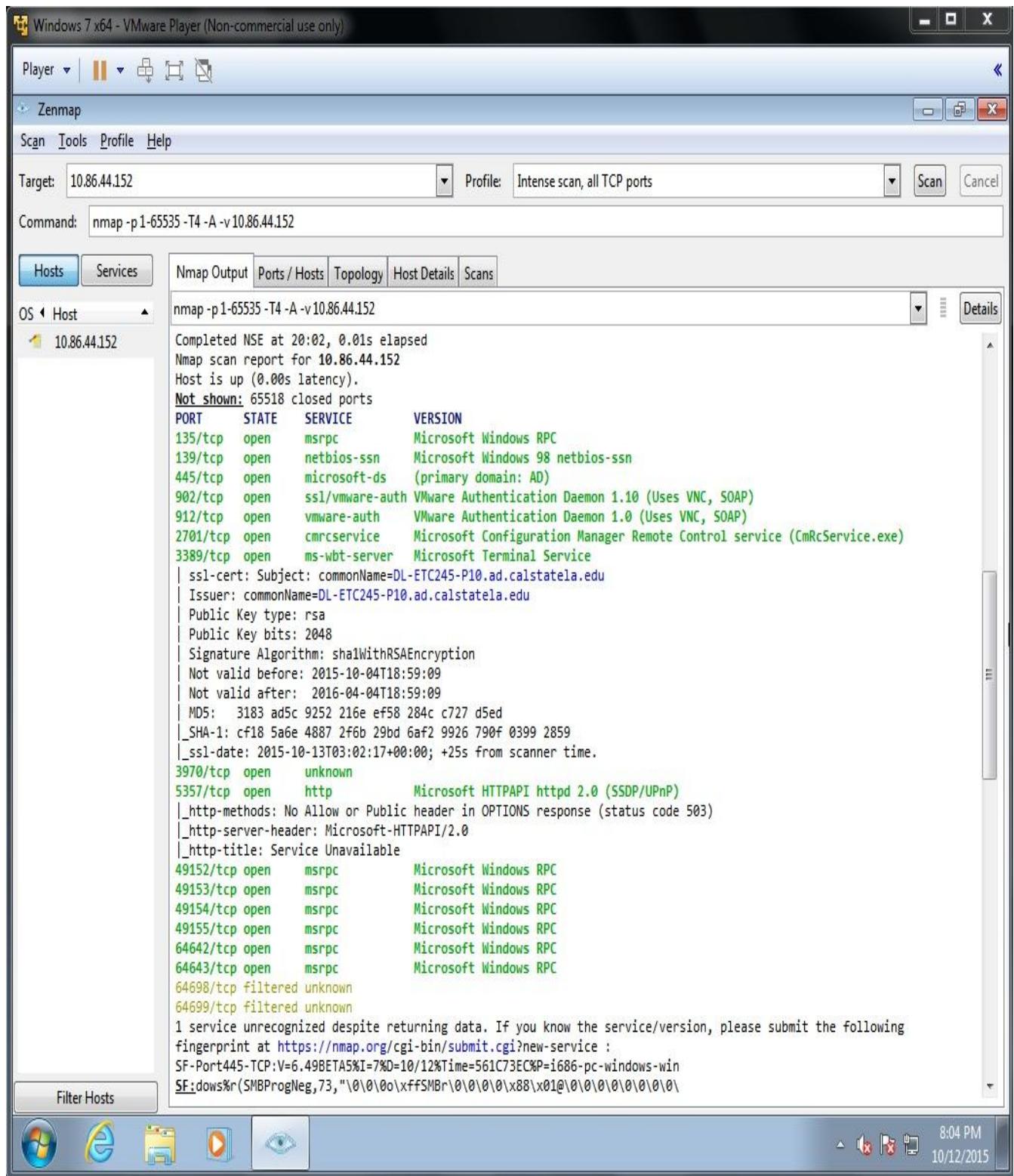


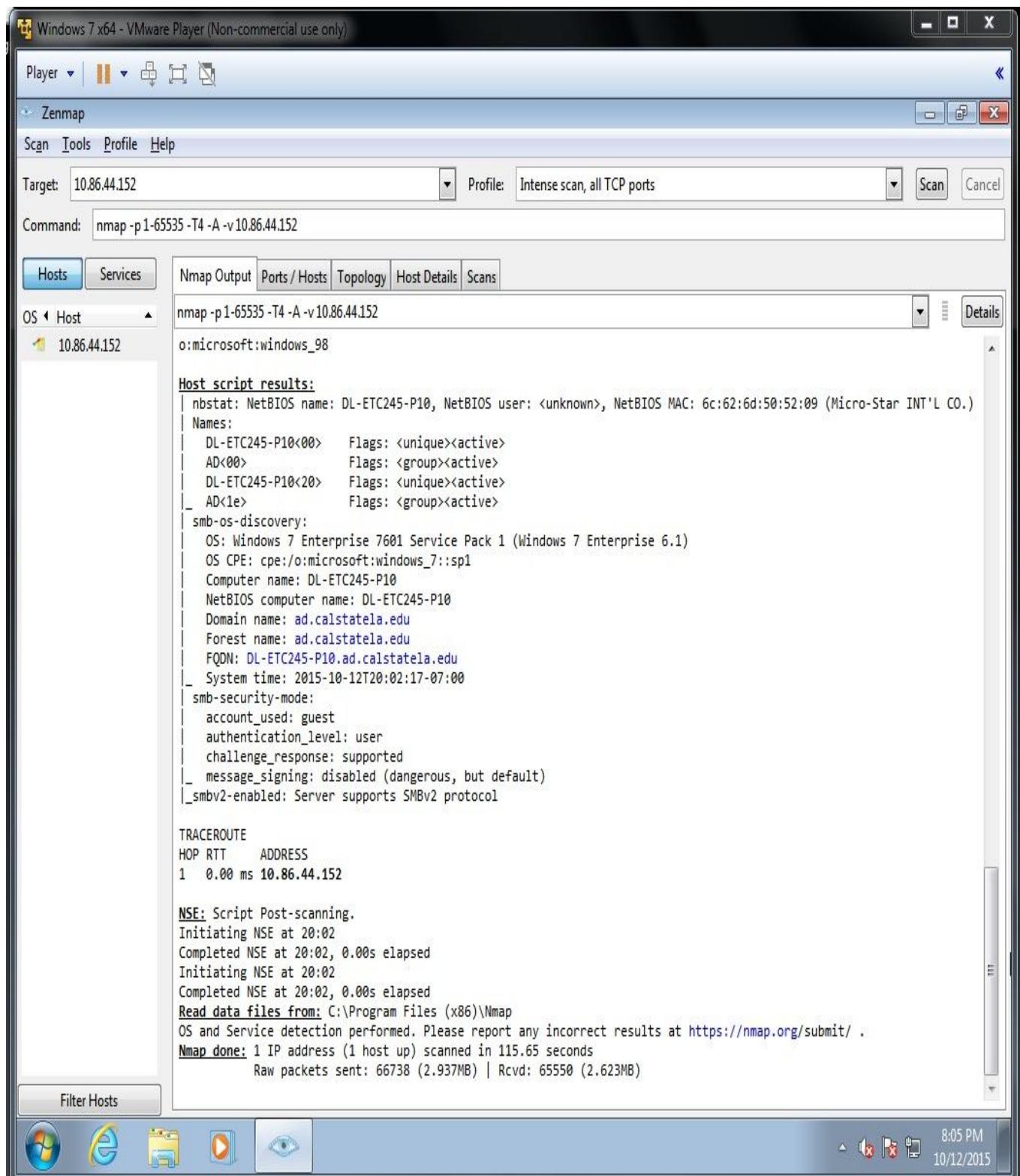
Step 4: Downloading & Installing nmap software on Virtual Machine

- ➔ We downloaded the nmap software from www.nmap.org
- ➔ nmap software version: nmap-6.49BETA5-setup-xp.exe
- ➔ and then, we installed this software

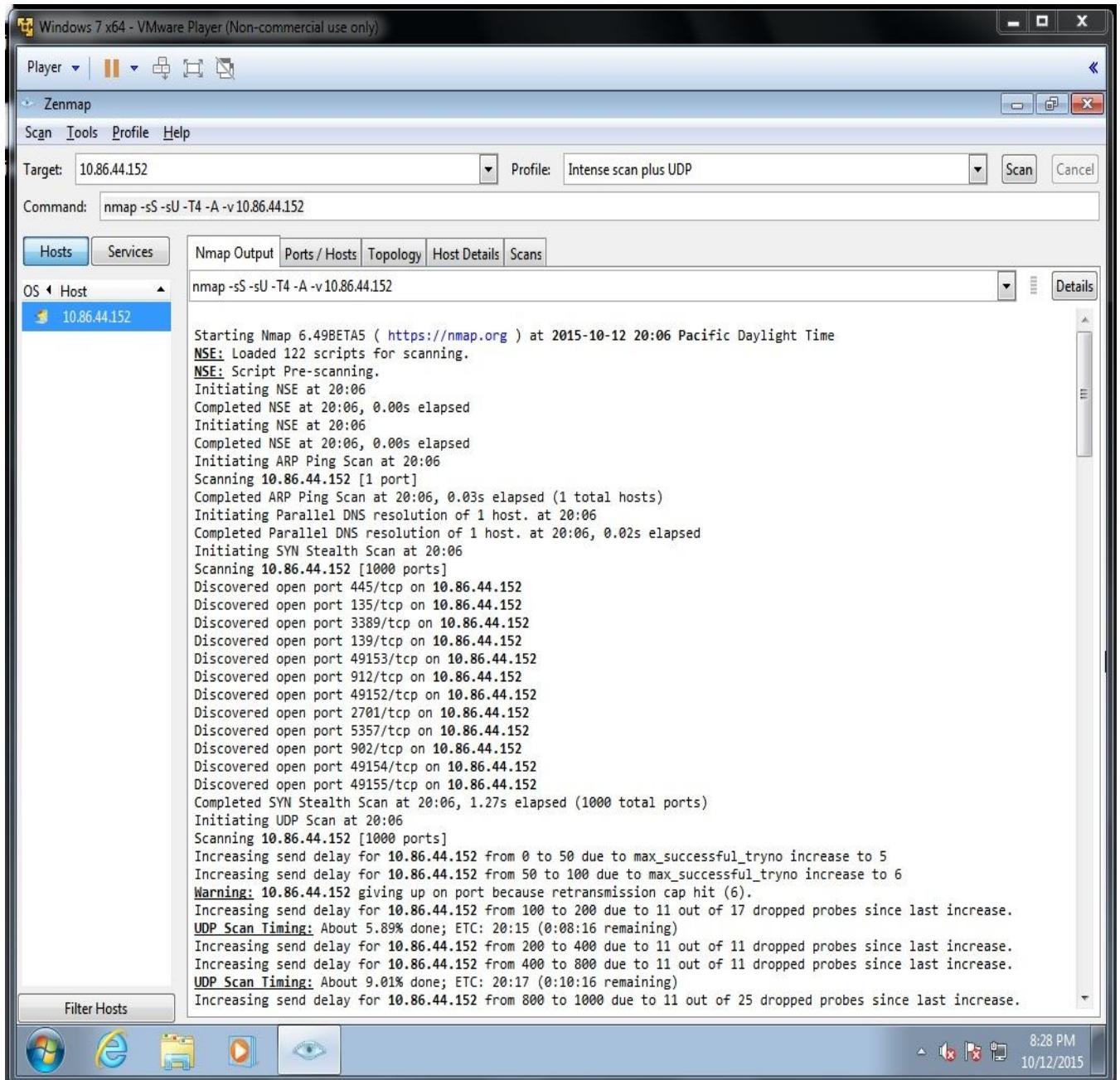
Step 5: TCP Port Scanning







Step 6: UDP Port Scanning



Windows 7 x64 - VMware Player (Non-commercial use only)

Player | Zenmap

Scan Tools Profile Help

Target: 10.86.44.152 | Profile: Intense scan plus UDP | Scan | Cancel

Command: nmap -sS -sU -T4 -A -v 10.86.44.152

Hosts Services Nmap Output Ports / Hosts Topology Host Details Scans

OS Host 10.86.44.152

nmap -sS -sU -T4 -A -v 10.86.44.152

UDP Scan Timing: About 11.69% done; ETC: 20:19 (0:11:28 remaining)
UDP Scan Timing: About 20.19% done; ETC: 20:21 (0:12:08 remaining)
UDP Scan Timing: About 27.29% done; ETC: 20:22 (0:11:22 remaining)
UDP Scan Timing: About 33.49% done; ETC: 20:22 (0:10:34 remaining)
UDP Scan Timing: About 39.09% done; ETC: 20:22 (0:09:46 remaining)
UDP Scan Timing: About 45.49% done; ETC: 20:22 (0:08:57 remaining)
UDP Scan Timing: About 51.59% done; ETC: 20:23 (0:08:05 remaining)
UDP Scan Timing: About 56.89% done; ETC: 20:23 (0:07:13 remaining)
UDP Scan Timing: About 62.49% done; ETC: 20:23 (0:06:21 remaining)
UDP Scan Timing: About 68.09% done; ETC: 20:23 (0:05:28 remaining)
UDP Scan Timing: About 73.09% done; ETC: 20:23 (0:04:36 remaining)
UDP Scan Timing: About 78.39% done; ETC: 20:23 (0:03:42 remaining)
UDP Scan Timing: About 83.49% done; ETC: 20:23 (0:02:49 remaining)|
Discovered open port 137/udp on 10.86.44.152
UDP Scan Timing: About 88.69% done; ETC: 20:23 (0:01:57 remaining)
UDP Scan Timing: About 93.69% done; ETC: 20:23 (0:01:05 remaining)
Completed UDP Scan at 20:24, 1052.15s elapsed (1000 total ports)
Initiating Service scan at 20:24
Scanning 37 services on 10.86.44.152
Service scan Timing: About 27.03% done; ETC: 20:27 (0:02:10 remaining)
Service scan Timing: About 54.05% done; ETC: 20:26 (0:01:06 remaining)
Completed Service scan at 20:25, 88.43s elapsed (37 services on 1 host)
Initiating OS detection (try #1) against 10.86.44.152
NSE: Script scanning 10.86.44.152.
Initiating NSE at 20:25
Completed NSE at 20:26, 30.68s elapsed
Initiating NSE at 20:26
Completed NSE at 20:26, 0.02s elapsed
Nmap scan report for 10.86.44.152
NSOCK ERROR [1152.4260s] mksck_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #13): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)
NSOCK ERROR [1157.4760s] mksck_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #34): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)
NSOCK ERROR [1157.5380s] mksck_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #37): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)
NSOCK ERROR [1158.6160s] mksck_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #64): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)
NSOCK ERROR [1159.7570s] mksck_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #86): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)

Filter Hosts

8:29 PM 10/12/2015

Windows 7 x64 - VMware Player (Non-commercial use only)

Player | Zenmap

Scan Tools Profile Help

Target: 10.86.44.152 Profile: Intense scan plus UDP Scan Cancel

Command: nmap -sS -sU -T4 -A -v 10.86.44.152

Hosts Services Nmap Output Ports / Hosts Topology Host Details Scans

OS Host 10.86.44.152

nmap -sS -sU -T4 -A -v 10.86.44.152

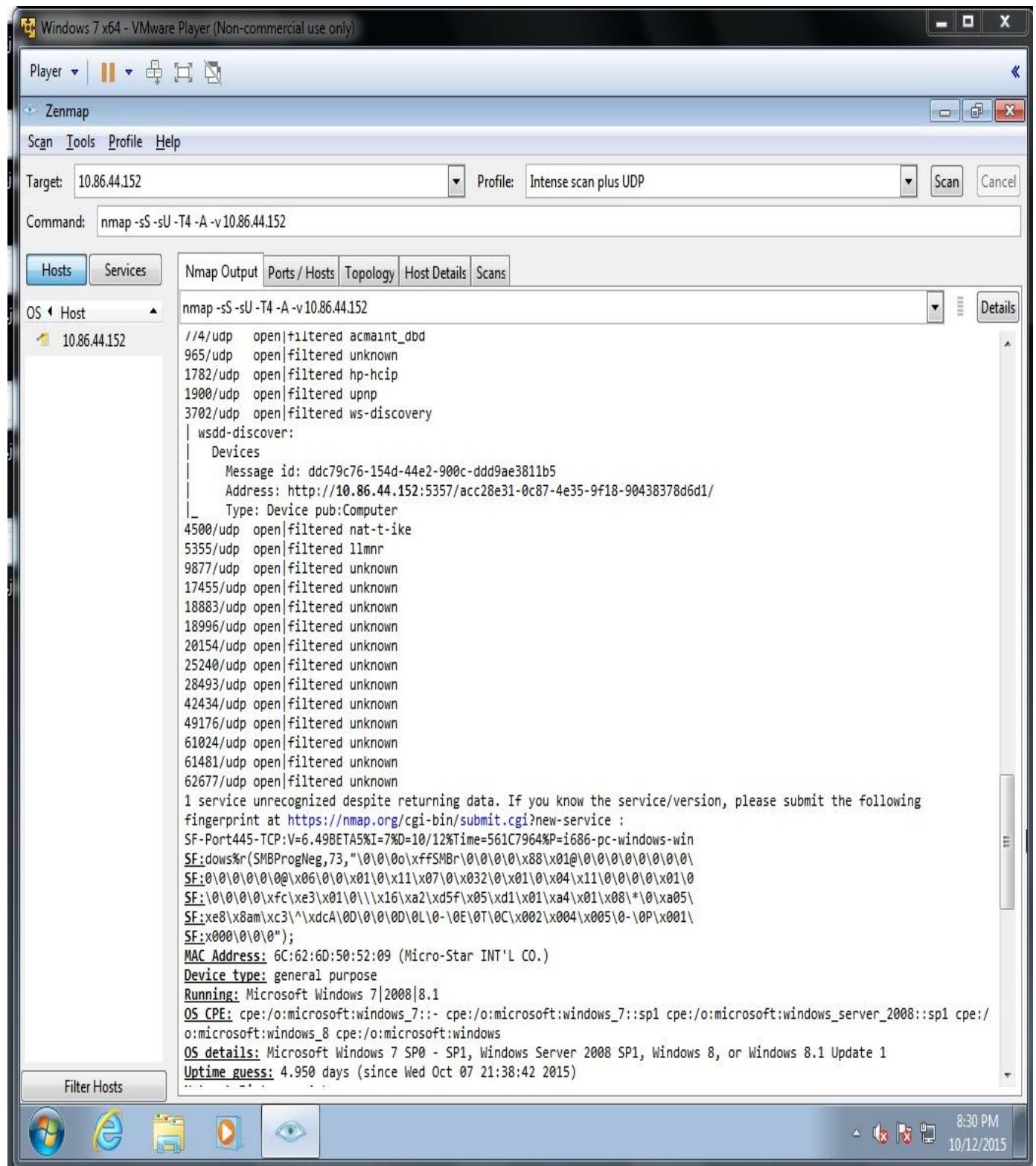
NSOCK ERROR [1162.3200s] msock_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #87): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)
NSOCK ERROR [1175.8220s] msock_bind_addr(): Bind to 0.0.0.0:500 failed (IOD #91): An attempt was made to access a socket in a way forbidden by its access permissions. (10013)
Host is up (0.00s latency).

Not shown: 1963 closed ports

PORT	STATE	SERVICE	VERSION
135/tcp	open	msrpc	Microsoft Windows RPC
139/tcp	open	netbios-ssn	Microsoft Windows 98 netbios-ssn
445/tcp	open	microsoft-ds	(primary domain: AD)
902/tcp	open	ssl/vmware-auth	VMware Authentication Daemon 1.10 (Uses VNC, SOAP)
912/tcp	open	vmware-auth	VMware Authentication Daemon 1.0 (Uses VNC, SOAP)
2701/tcp	open	cmrbservice	Microsoft Configuration Manager Remote Control service (CmRcService.exe)
3389/tcp	open	ms-wbt-server	Microsoft Terminal Service
ssl-cert: Subject: commonName=DL-ETC245-P10.ad.calstatela.edu			
Issuer: commonName=DL-ETC245-P10.ad.calstatela.edu			
Public Key type: rsa			
Public Key bits: 2048			
Signature Algorithm: sha1WithRSAEncryption			
Not valid before: 2015-10-04T18:59:09			
Not valid after: 2016-04-04T18:59:09			
MD5: 3183 ad5c 9252 216e ef58 284c c727 d5ed			
SHA-1: cf18 5a6e 4887 2f6b 29bd 6af2 9926 790f 0399 2859			
_ssl-date: 2015-10-13T03:27:15+00:00; +1m28s from scanner time.			
5357/tcp	open	http	Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
_http-methods: No Allow or Public header in OPTIONS response (status code 503)			
_http-server-header: Microsoft-HTTPAPI/2.0			
_http-title: Service Unavailable			
49152/tcp	open	msrpc	Microsoft Windows RPC
49153/tcp	open	msrpc	Microsoft Windows RPC
49154/tcp	open	msrpc	Microsoft Windows RPC
49155/tcp	open	msrpc	Microsoft Windows RPC
123/udp	open filtered	ntp	
137/udp	open	netbios-ns	Microsoft Windows netbios-ssn (workgroup: AD)
138/udp	open filtered	netbios-dgm	
161/udp	open filtered	snmp	
_snmp-hh3c-logins: TIMEOUT			
500/udp	open filtered	isakmp	
639/udp	open filtered	msdp	

Filter Hosts

8:29 PM 10/12/2015



Windows 7 x64 - VMware Player (Non-commercial use only)

Player | Zenmap

Scan Tools Profile Help

Target: 10.86.44.152 Profile: Intense scan plus UDP

Command: nmap -sS -sU -T4 -A -v 10.86.44.152

Hosts Services Nmap Output Ports / Hosts Topology Host Details Scans

OS Host 10.86.44.152

Host script results:

```
| nbstat: NetBIOS name: DL-ETC245-P10, NetBIOS user: <unknown>, NetBIOS MAC: 6c:62:6d:50:52:09 (Micro-Star INT'L CO.)
| Names:
|   DL-ETC245-P10<00> Flags: <unique><active>
|   AD<00> Flags: <group><active>
|   DL-ETC245-P10<20> Flags: <unique><active>
|   AD<1e> Flags: <group><active>
| smb-os-discovery:
|   OS: Windows 7 Enterprise 7601 Service Pack 1 (Windows 7 Enterprise 6.1)
|   OS CPE: cpe:/o:microsoft:windows_7::sp1
|   Computer name: DL-ETC245-P10
|   NetBIOS computer name: DL-ETC245-P10
|   Domain name: ad.calstatela.edu
|   Forest name: ad.calstatela.edu
|   FQDN: DL-ETC245-P10.ad.calstatela.edu
|   System time: 2015-10-12T20:27:14-07:00
| smb-security-mode:
|   account_used: <blank>
|   authentication_level: user
|   challenge_response: supported
|   message_signing: disabled (dangerous, but default)
|   _smbv2-enabled: Server supports SMBv2 protocol

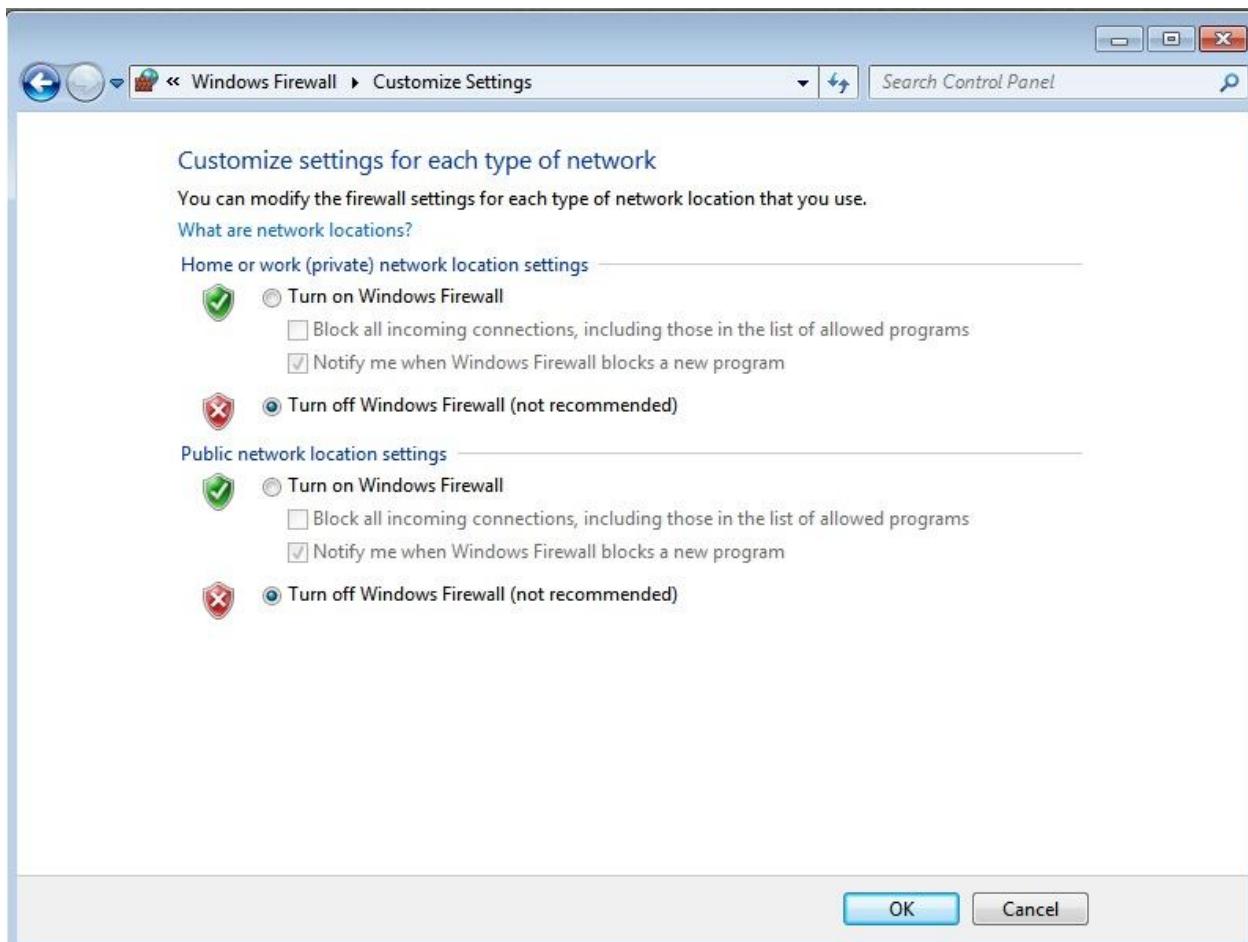
TRACEROUTE
HOP RTT ADDRESS
1 0.00 ms 10.86.44.152

NSE: Script Post-scanning.
Initiating NSE at 20:26
Completed NSE at 20:26, 0.00s elapsed
Initiating NSE at 20:26
Completed NSE at 20:26, 0.00s elapsed
Read data files from: C:\Program Files (x86)\Nmap
OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/.
Nmap done: 1 IP address (1 host up) scanned in 1181.01 seconds
Raw packets sent: 2285 (83.808KB) | Rcvd: 2011 (97.469KB)
```

Filter Hosts

8:30 PM 10/12/2015

Step 7: Temporarily Turned off Firewall on Virtual Machine



Step 8: Submitting output of “netstat -na” for TCP Port

```
C:\> C:\windows\system32\cmd.exe
C:\>Users\rkumar2>netstat -na

Active Connections

Proto  Local Address          Foreign Address        State
TCP    0.0.0.0:135            0.0.0.0:0             LISTENING
TCP    0.0.0.0:445            0.0.0.0:0             LISTENING
TCP    0.0.0.0:902            0.0.0.0:0             LISTENING
TCP    0.0.0.0:912            0.0.0.0:0             LISTENING
TCP    0.0.0.0:2701           0.0.0.0:0             LISTENING
TCP    0.0.0.0:3389           0.0.0.0:0             LISTENING
TCP    0.0.0.0:3970           0.0.0.0:0             LISTENING
TCP    0.0.0.0:5357           0.0.0.0:0             LISTENING
TCP    0.0.0.0:49152          0.0.0.0:0             LISTENING
TCP    0.0.0.0:49153          0.0.0.0:0             LISTENING
TCP    0.0.0.0:49154          0.0.0.0:0             LISTENING
TCP    0.0.0.0:49155          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64642          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64643          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64698          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64699          0.0.0.0:0             LISTENING
TCP    10.86.44.152:139       0.0.0.0:0             LISTENING
TCP    10.86.44.152:57980     10.81.31.185:10123   ESTABLISHED
TCP    10.86.44.152:63895     23.214.227.51:443  CLOSE_WAIT
TCP    10.86.44.152:64453     10.81.76.11:135      TIME_WAIT
TCP    10.86.44.152:64454     10.81.76.11:49494   TIME_WAIT
TCP    127.0.0.1:27015        0.0.0.0:0             LISTENING
TCP    127.0.0.1:27015        127.0.0.1:63886    ESTABLISHED
TCP    127.0.0.1:63885        0.0.0.0:0             LISTENING
TCP    127.0.0.1:63886        127.0.0.1:27015    ESTABLISHED
TCP    127.0.0.1:63890        127.0.0.1:63891    ESTABLISHED
TCP    127.0.0.1:63891        127.0.0.1:63890    ESTABLISHED
TCP    127.0.0.1:63901        127.0.0.1:63902    ESTABLISHED
TCP    127.0.0.1:63902        127.0.0.1:63901    ESTABLISHED
TCP    192.168.126.1:139      0.0.0.0:0             LISTENING
TCP    192.168.209.1:139      0.0.0.0:0             LISTENING
TCP    [::]:135               [::]:0              LISTENING
TCP    [::]:445               [::]:0              LISTENING
TCP    [::]:2701               [::]:0              LISTENING
TCP    [::]:3389               [::]:0              LISTENING
TCP    [::]:5357               [::]:0              LISTENING
TCP    [::]:49152              [::]:0              LISTENING
TCP    [::]:49153              [::]:0              LISTENING
TCP    [::]:49154              [::]:0              LISTENING
TCP    [::]:49155              [::]:0              LISTENING
TCP    [::]:64642              [::]:0              LISTENING
TCP    [::]:64643              [::]:0              LISTENING
TCP    [::]:64699              [::]:0              LISTENING
UDP    0.0.0.0:123             *:***
UDP    0.0.0.0:161             *:***
UDP    0.0.0.0:500             *:***
UDP    0.0.0.0:3702            *:***
UDP    0.0.0.0:3702            *:***
UDP    0.0.0.0:4500            *:***
UDP    0.0.0.0:5355            *:***
UDP    0.0.0.0:62160            *:***
UDP    10.86.44.152:137        *:***
UDP    10.86.44.152:138        *:***
UDP    10.86.44.152:1900       *:***
UDP    10.86.44.152:62099     *:***
UDP    127.0.0.1:1900          *:***
UDP    127.0.0.1:53437         *:***
UDP    127.0.0.1:54907         *:***
UDP    127.0.0.1:55299         *:***
UDP    127.0.0.1:55300         *:***
UDP    127.0.0.1:56299         *:***
UDP    127.0.0.1:56478         *:***
UDP    127.0.0.1:57198         *:***
UDP    127.0.0.1:62102         *:***
UDP    127.0.0.1:62158         *:***
UDP    127.0.0.1:62159         *:***
UDP    127.0.0.1:63856         *:***
UDP    127.0.0.1:64852         *:***
UDP    192.168.126.1:137       *:***
UDP    192.168.126.1:138       *:***
UDP    192.168.126.1:1900       *:***
UDP    192.168.126.1:62100     *:***
UDP    192.168.209.1:137       *:***
```

C:\windows\system32\cmd.exe

```
UDP 192.168.126.1:62100    *:*
UDP 192.168.209.1:137    *:*
UDP 192.168.209.1:138    *:*
UDP 192.168.209.1:1900   *:*
UDP 192.168.209.1:62101   *:*
UDP [::]:123              *:*
UDP [::]:161              *:*
UDP [::]:500              *:*
UDP [::]:3702             *:*
UDP [::]:3702             *:*
UDP [::]:4500             *:*
UDP [::]:62161            *:*
UDP [::1]:1900            *:*
UDP [::1]:62098           *:*
```

C:\Users\rkumar2>

Step 9: Submitting output of “netstat -na” for UDP Port

```
C:\> C:\windows\system32\cmd.exe
C:\>Users\rkumar2>netstat -na
Active Connections

Proto  Local Address          Foreign Address        State
TCP    0.0.0.0:135            0.0.0.0:0             LISTENING
TCP    0.0.0.0:445            0.0.0.0:0             LISTENING
TCP    0.0.0.0:902            0.0.0.0:0             LISTENING
TCP    0.0.0.0:912            0.0.0.0:0             LISTENING
TCP    0.0.0.0:2701           0.0.0.0:0             LISTENING
TCP    0.0.0.0:3389           0.0.0.0:0             LISTENING
TCP    0.0.0.0:3970           0.0.0.0:0             LISTENING
TCP    0.0.0.0:5357           0.0.0.0:0             LISTENING
TCP    0.0.0.0:49152          0.0.0.0:0             LISTENING
TCP    0.0.0.0:49153          0.0.0.0:0             LISTENING
TCP    0.0.0.0:49154          0.0.0.0:0             LISTENING
TCP    0.0.0.0:49155          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64642          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64643          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64698          0.0.0.0:0             LISTENING
TCP    0.0.0.0:64699          0.0.0.0:0             LISTENING
TCP    10.86.44.152:139       0.0.0.0:0             LISTENING
TCP    10.86.44.152:57980     10.81.31.185:10123   ESTABLISHED
TCP    10.86.44.152:63895     23.214.227.51:443  CLOSE_WAIT
TCP    10.86.44.152:64453     10.81.76.11:135      TIME_WAIT
TCP    10.86.44.152:64454     10.81.76.11:49494   TIME_WAIT
TCP    127.0.0.1:27015        0.0.0.0:0             LISTENING
TCP    127.0.0.1:27015        127.0.0.1:63886    ESTABLISHED
TCP    127.0.0.1:63885        0.0.0.0:0             LISTENING
TCP    127.0.0.1:63886        127.0.0.1:27015    ESTABLISHED
TCP    127.0.0.1:63890        127.0.0.1:63891    ESTABLISHED
TCP    127.0.0.1:63891        127.0.0.1:63890    ESTABLISHED
TCP    127.0.0.1:63901        127.0.0.1:63902    ESTABLISHED
TCP    127.0.0.1:63902        127.0.0.1:63901    ESTABLISHED
TCP    192.168.126.1:139      0.0.0.0:0             LISTENING
TCP    192.168.209.1:139      0.0.0.0:0             LISTENING
TCP    [::]:135               [::]:0              LISTENING
TCP    [::]:445               [::]:0              LISTENING
TCP    [::]:2701               [::]:0              LISTENING
TCP    [::]:3389               [::]:0              LISTENING
TCP    [::]:5357               [::]:0              LISTENING
TCP    [::]:49152              [::]:0              LISTENING
TCP    [::]:49153              [::]:0              LISTENING
TCP    [::]:49154              [::]:0              LISTENING
TCP    [::]:49155              [::]:0              LISTENING
TCP    [::]:64642              [::]:0              LISTENING
TCP    [::]:64643              [::]:0              LISTENING
TCP    [::]:64699              [::]:0              LISTENING
UDP    0.0.0.0:123             *:*                *
UDP    0.0.0.0:161             *:*                *
UDP    0.0.0.0:500             *:*                *
UDP    0.0.0.0:3702            *:*                *
UDP    0.0.0.0:3702            *:*                *
UDP    0.0.0.0:4500            *:*                *
UDP    0.0.0.0:5355            *:*                *
UDP    0.0.0.0:62160            *:*                *
UDP    10.86.44.152:137        *:*                *
UDP    10.86.44.152:138        *:*                *
UDP    10.86.44.152:1900       *:*                *
UDP    10.86.44.152:62099     *:*                *
UDP    127.0.0.1:1900          *:*                *
UDP    127.0.0.1:53437         *:*                *
UDP    127.0.0.1:54907         *:*                *
UDP    127.0.0.1:55299         *:*                *
UDP    127.0.0.1:55300         *:*                *
UDP    127.0.0.1:56299         *:*                *
UDP    127.0.0.1:56478         *:*                *
UDP    127.0.0.1:57198         *:*                *
UDP    127.0.0.1:62102         *:*                *
UDP    127.0.0.1:62158         *:*                *
UDP    127.0.0.1:62159         *:*                *
UDP    127.0.0.1:63856         *:*                *
UDP    127.0.0.1:64852         *:*                *
UDP    192.168.126.1:137       *:*                *
UDP    192.168.126.1:138       *:*                *
UDP    192.168.126.1:1900       *:*                *
UDP    192.168.126.1:62100     *:*                *
UDP    192.168.209.1:137       *:*                *
```

```
C:\windows\system32\cmd.exe
UDP 192.168.126.1:62100    *:*
UDP 192.168.209.1:137    *:*
UDP 192.168.209.1:138    *:*
UDP 192.168.209.1:1900   *:*
UDP 192.168.209.1:62101   *:*
UDP [::]:123              *:*
UDP [::]:161              *:*
UDP [::]:500              *:*
UDP [::]:3702             *:*
UDP [::]:3702             *:*
UDP [::]:4500             *:*
UDP [::]:62161            *:*
UDP [::1]:1900            *:*
UDP [::1]:62098           *:*

C:\Users\rkumar2>
```