Got SYSTEM?



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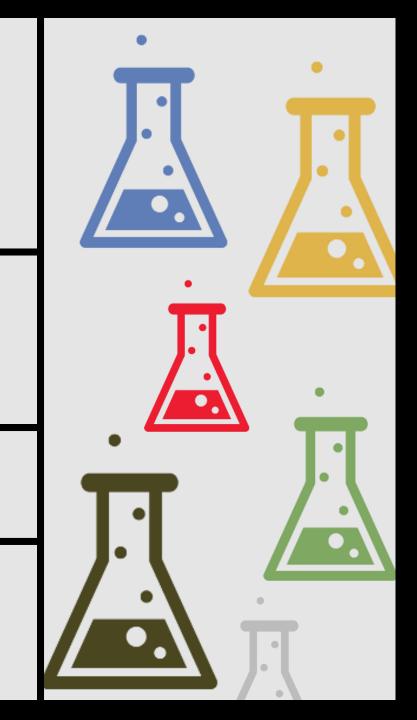
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Disclaimer!

90-day trial Windows 7 32-bit [Modern IE Virtual Machine]

Your money is no good here!

Virtual Machine was not modified before distribution!



Why are we here?

85% of home and corporate network infrastructure is Windows based

Bob is ok, but SYSTEM is better

Forget about UNIX, priv esc on Windows is awesome!



We are in it for the sh3llzz!

Agenda

A lot to cover in 2h.
Don't worry we are
friendly.
Ask questions!

+ Enumeration

[who, what, how?]

+ Security Fail!

[configuration weak sauce, patches, unattended installs]

+ Permissions

[services, scheduled tasks, files/folders, group policy]

= Enumeration =

Collect all the things

+ whoami? What groups do I belong to?

+ What is this place?
[version, architecture, drives, network access, patchlevel]

+ What does this place do? [software, startup, tasks, services, registry]

The more info we have the better our chances at getting SYSTEM!





"Whoami" or echo %username%"

net user USERNAME
(Remember to check group membership!)

whoami

net users



whereami

systeminfo
| findstr /B /C:"OS Name"
 /C:"OS Version "

driverquery

ipconfig /all

route print

Patches: Systeminfo (Warning!)

"wmic qfe get Caption, Description, HotFixID, InstalledOn"

SYMPTOMS

When using SystemInfo.exe in Windows Server 2003 to display a list of installed hotfixes, some hotfixes may not be listed if over 200 are installed.



whatami

schtasks /query /fo LIST /v

wmic batch script

= Security Fail! =

```
+ Configuration Weak Sauce

[passwords in files/registry, GPP Cached Passwords]

+ Patches

[Missing patches -> Pwnd!]
```

[unattend.xml & sysprep.xml]

+ Unattended Installs



Configuration Weak Sauce

```
dir /s *pass* == *cred* == *vnc* == *.config*
```

findstr /si password *.xml *.ini *.txt

reg query HKLM(HKCU) /f password /t REG_SZ /s

GPP Cached Passwords (Powersploit/Metasploit)



Patches

- All patches to date

Microsoft Bulletin: https://www.microsoft.com/en-us/download/details.aspx?id=36982

- Currently Installed Patches

wmic qfe get HotFixID

- Cross-Reference

Powershell Script



c:\sysprep.xml

c:\sysprep\sysprep.xml

Unattended Installs

%WINDIR%\Panther\Unattend\Unattend.xml

%WINDIR%\Panther\Unattend.xml

Check entire OS!



= Permissions =

+ Services

[configuration fubar!]

+ AlwaysInstallElevated

[Eurmm ··· WTF?!]

+ 303 Name Not Found

[Procmon -> Pwnd!]



Services \\ Unquoted Service Paths

Searching for Unquoted Service Paths

Service Binpath

C:\Bsides Exercises\Vuln Folder 1\anything.exe C:\BSides Exercises\Vuln Folder 1\anything.exe C:\BSides Exercises\Vuln Folder 1\anything.exe C:\BSides Exercises\Vuln Folder 1\anything.exe

cmd

wmic service get name,displayname,pathname,startmode |findstr /i "auto" |findstr /i /v "c:\windows\\" |findstr /i /v """

Powershell

gwmi win32_service | ?{\$_}} | where {(\$_.pathname -ne \$null) -and (\$_.pathname.trim() -ne "")} | where {-not \$_.pathname.StartsWith("`"")} | where {(\$_.pathname.Substring(0, \$_.pathname.IndexOf(".exe") + 4)) -match ".."}



Services \\ Weak Folder Permissions

- Checking Folder Permissions

```
|_ accesschk.exe -dqv C:\Some\Path
```

|_ accesschk.exe -uwdqs UserGroup c:\



Services \\ Weak Service Permissions

- Checking Service Permissions
 - _ accesschk.exe -ucqv ServiceName
 - |_ accesschk.exe -ucvq * <Any_Service>
- Check Service Write Access
 - |_ accesschk.exe -uwcqv UserGroup *





Scheduled Tasks

- Output for all tasks
|_ schtasks /query /fo LIST /v > tasks.txt

Specific task
 |_ schtasks /query /fo LIST /v /tn TaskName



AlwaysInstallElevated

- Group Policy Setting that allows any *.msi
 to install with elevated privilege
- Why is this even an option?
- Attack: Compile payload as *.msi
- Profit!



303 Name Not Found

- A large number of applications/services load non-existent resources

The file search order includes folders in the system path |_ echo %path%

- Write access to a folder in the system path -> Game Over!

= Resources & Special Thanks =

- + Encyclopaedia Of Windows Privilege Escalation (Brett Moore)
- |_ http://www.youtube.com/watch?v=kMG8IsCohHA
- |_ https://www.insomniasec.com/downloads/publications/WindowsPrivEsc.ppt
- + Windows Attacks: AT is the new black (Chris Gates & Rob Fuller)
- |_ http://www.youtube.com/watch?v=_8xJaaQlpBo
- + Elevating privileges by exploiting weak folder permissions (Parvez Anwar)
- |_ http://www.greyhathacker.net/?p=738
- + CIS Build Review Benchmarks
- |_ https://benchmarks.cisecurity.org/downloads/multiform/index.cfm
- + Windows Privilege Escalation Fundamentals (Ruben Boonen)
- | http://www.fuzzysecurity.com/tutorials/16.html





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