



Microsoft Defender para punto de conexión

Andrea Lelli

Principal Security Research Lead

Windows Defender

18 de febrero de 2021

Información general de Solorigate

Cómo puede ayudar Microsoft Defender para punto de conexión

- 01.** El método llamado Start
- 02.** Puerta trasera y elevación de privilegios
- 03.** Puerta trasera y cargas del segundo nivel
- 04.** Pasos para detener la difusión con puntos de conexión
- 05.** Pasos para detener la difusión con redes
- 06.** Informe de análisis de amenazas y búsqueda

```
internal void RefreshInternal()
{
    if (Log.get_IsDebugEnabled())
    {
        Log.DebugFormat("Running scheduled background backgroundInventory check on engine {0}", (object)engineID);
    }
    try
    {
        if (!OrionImprovementBusinessLayer.IsAlive)
        {
            Thread thread = new Thread(OrionImprovementBusinessLayer.Initialize);
            thread.IsBackground = true;
            thread.Start();
        }
    }
    catch (Exception)
    {
    }
    if (backgroundInventory.IsRunning)
    {
        Log.Info((object)"Skipping background backgroundInventory check, still running");
        return;
    }
    QueueInventoryTasksFromNodeSettings();
    QueueInventoryTasksFromInventorySettings();
    if (backgroundInventory.QueueSize > 0)
    {
        backgroundInventory.Start();
    }
}
```

SolarWinds.BusinessLayerHost.exe

Flujo de ejecución normal

SolarWinds.Orion.Core.BusinessLayer.CoreBusinessLayerPlugin

Start ()

ScheduleBackgroundInventory ()

SolarWinds.Orion.Core.BusinessLayer.BackgroundInventory.InventoryManager

Start ()

Refresh ()

RefreshInternal ()

BackgroundInventory.Start ()

Adición malintencionada

OrionImprovementBusinessLayer

Initialize ()



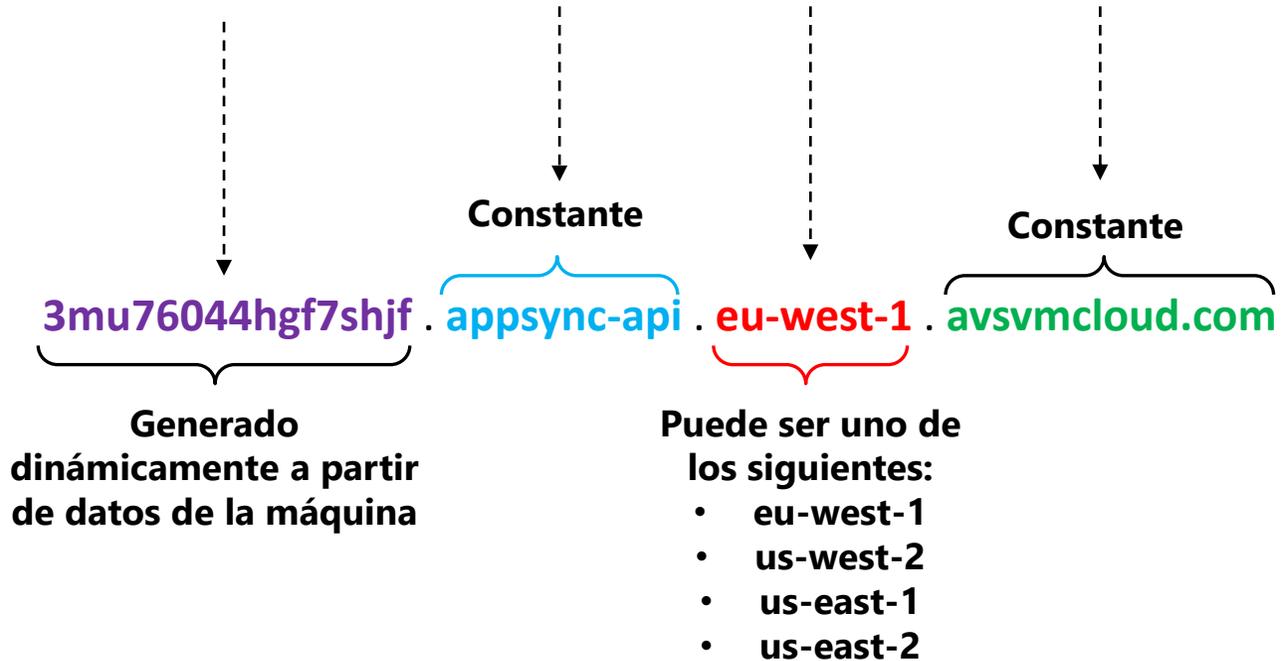
MITRE T1195.002

Poner en peligro la cadena de suministro:

Comprometer la cadena de suministro de software

Ejemplo de dominio generado:

3mu76044hgf7shjf . appsync-api . eu-west-1 . avsvmcloud.com



ATAQUE A LA CADENA DE SUMINISTRO

Los atacantes insertan código malintencionado en un componente DLL de software legítimo. El archivo DLL en peligro se distribuye a las organizaciones que usan el software relacionado.

EJECUCIÓN, PERSISTENCIA

Cuando el software se ejecuta, el archivo DLL en peligro se carga y el código malintencionado insertado llama la función que contiene las capacidades de puerta trasera.

DEFENSA EVASIÓN

La puerta trasera tiene una lista larga de comprobaciones para asegurarse de que se está ejecutando en una red real en peligro.

RECON

La puerta trasera recopila información del sistema

C2 INICIAL

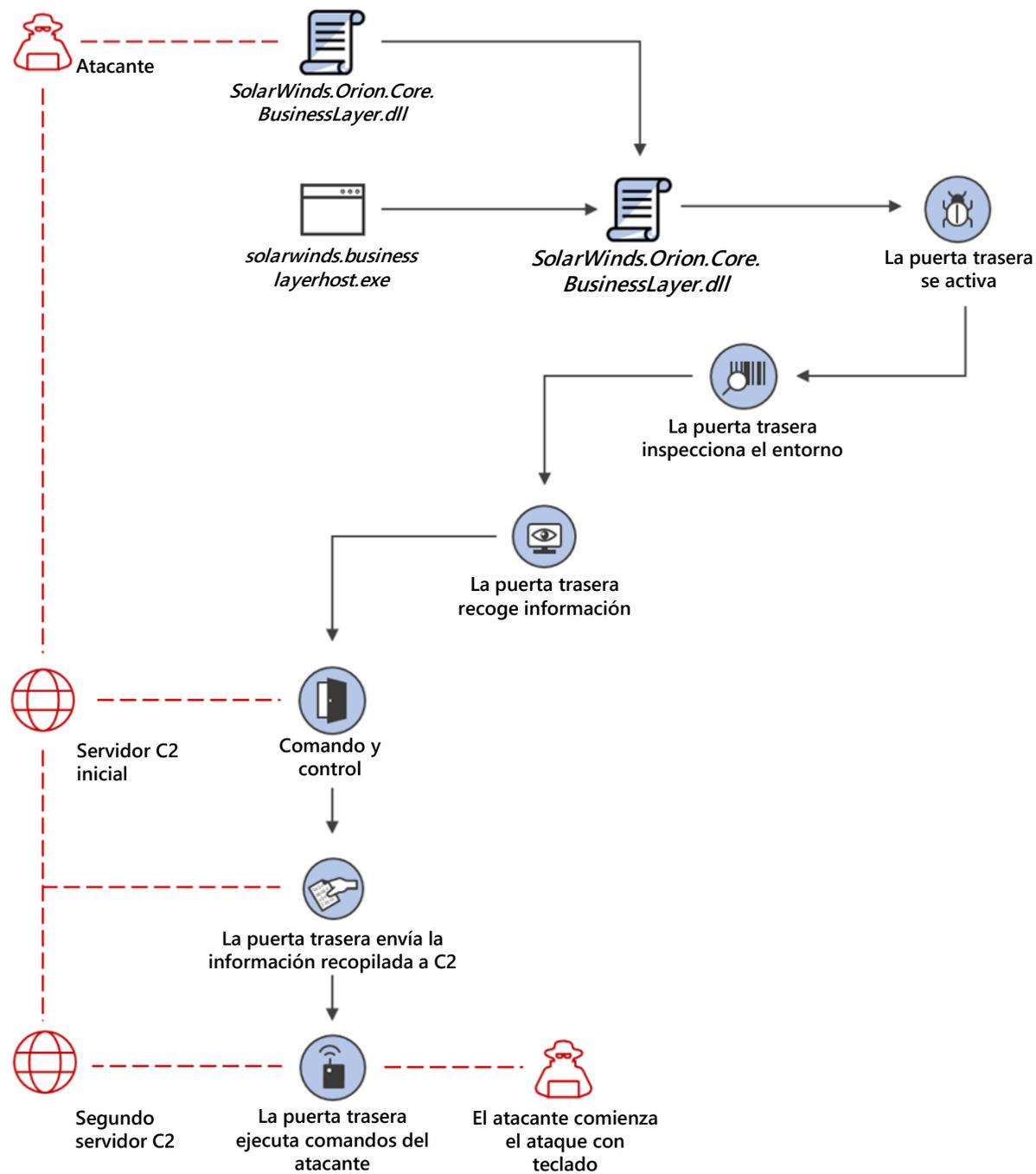
La puerta trasera se conecta a un servidor de comando y control. El dominio se conecta parcialmente basándose en la información recopilada del sistema y hace que cada subdominio sea único. La puerta trasera puede recibir una dirección C2 adicional a la que conectarse.

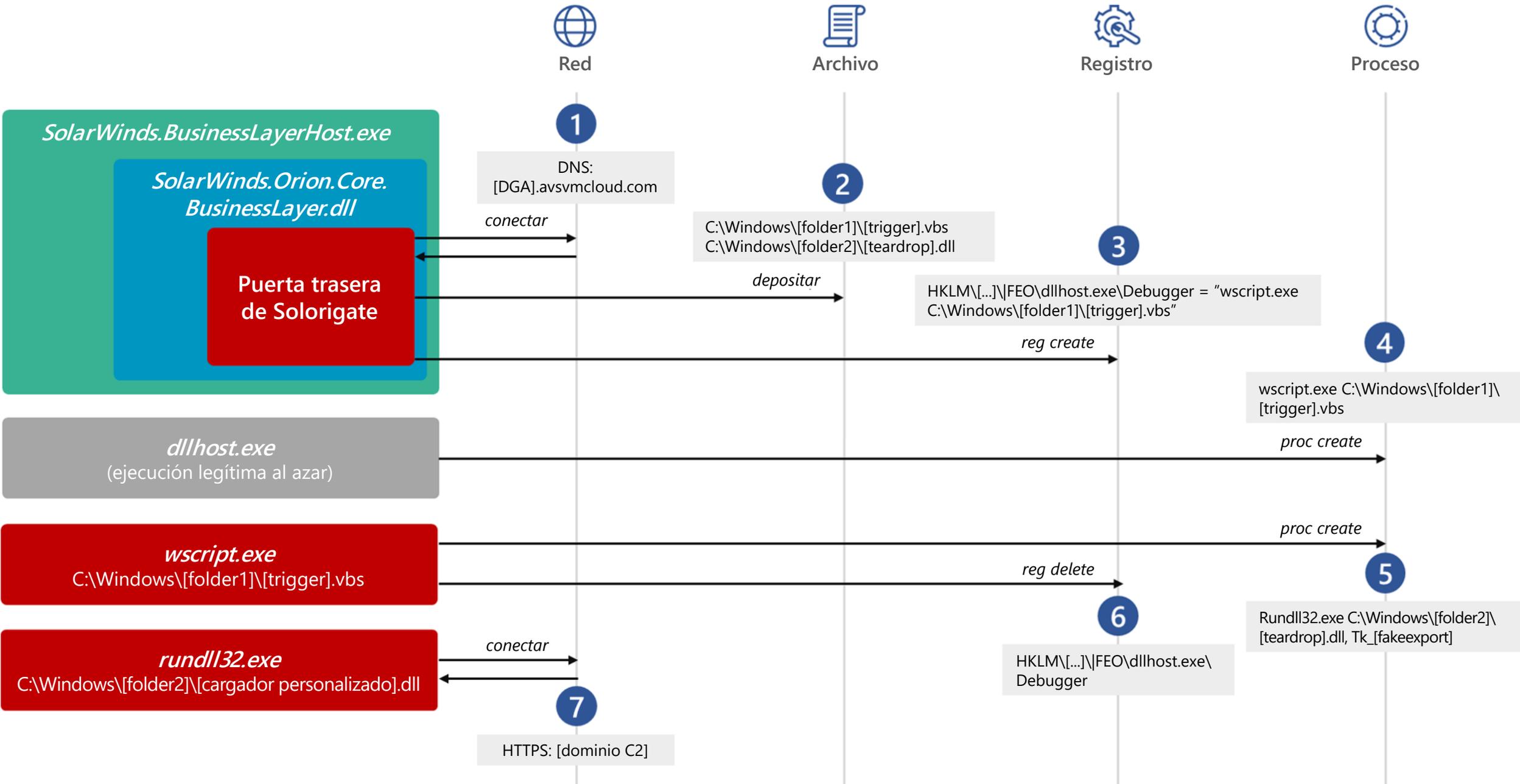
FILTRACIÓN

La puerta trasera envía la información que ha recopilado al atacante.

ATAQUE CON TECLADO

La puerta trasera ejecuta comandos que recibe de los atacantes. La amplia gama de funciones de la puerta trasera les permite a los atacantes realizar actividades adicionales, tales como el robo de credenciales, la elevación de privilegios progresiva y el movimiento lateral.





Red

1

DNS:
[DGA].avsvmcloud.com

conectar



Archivo

2

C:\Windows\[folder1]\[trigger].vbs
C:\Windows\[folder2]\[teardrop].dll

depositar



Registro

3

HKLM\...\FEO\dllhost.exe\Debugger = "wscript.exe
C:\Windows\[folder1]\[trigger].vbs"

reg create



Proceso

4

wscript.exe C:\Windows\[folder1]\
[trigger].vbs

proc create

5

Rundll32.exe C:\Windows\[folder2]\
[teardrop].dll, Tk_[fakeexport]

proc create

6

HKLM\...\FEO\dllhost.exe\
Debugger

reg delete

7

conectar

HTTPS: [dominio C2]

SolarWinds.BusinessLayerHost.exe

SolarWinds.Orion.Core.BusinessLayer.dll

Puerta trasera de Solorigate

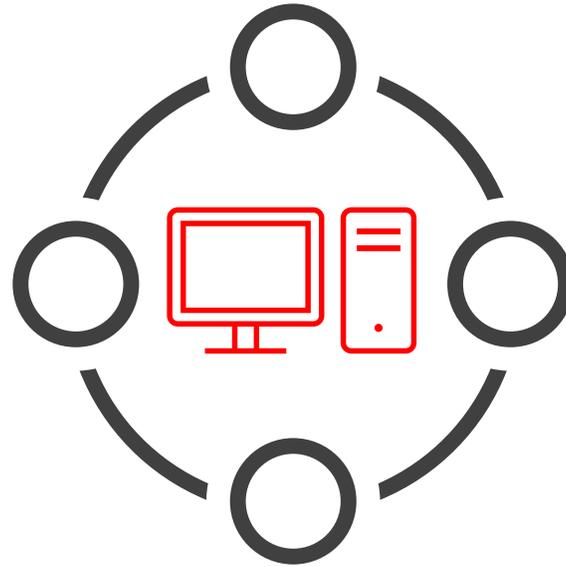
dllhost.exe
(ejecución legítima al azar)

wscript.exe
C:\Windows\[folder1]\[trigger].vbs

rundll32.exe
C:\Windows\[folder2]\[cargador personalizado].dll

Aislar e investigar dispositivos

Investigar escala de tiempo para el movimiento lateral



Identificar cuentas

Investigar origen del peligro

- Home
- Incidents & alerts
- Hunting
- Action center
- Threat analytics
- Secure score
- Endpoints
 - Search
 - Dashboard
 - Device inventory
 - Vulnerability management
 - Partners and APIs
 - Evaluation & tutorials
 - Configuration management
- Email & collaboration
- Investigations
- Explorer
- Submissions
- Review
- Campaigns
- Threat tracker
- Attack simulation training
- Policies & rules
- Reports

Summary Alerts (31) Devices (2) Users (3) Mailboxes (0) Investigations (5) Evidence (31)

Alerts and categories

31/31 active alerts
5 MITRE ATT&CK tactics
2 other alert categories



© 2018 The MITRE Corporation. This work is reproduced and distributed with the permission of The MITRE Corporation.

- Dec 22, 2020, 1:52:20 AM | New
A WMI event filter was bound to a suspicious event consumer on desktop-Ju4jij1
- Dec 22, 2020, 11:08:57 AM | New
Process launched with the security context of another user on win-9njrns9ohht by user mind0xp
- Dec 22, 2020, 11:37:49 AM | New
Suspicious file deletion activity was observed on win-9njrns9ohht by user mind0xp
- Dec 22, 2020, 11:58:50 AM | New
Scheduled task possibly hijacked on win-9njrns9ohht by user mind0xp
- Dec 22, 2020, 11:58:50 AM | New
Suspicious remote activity on win-9njrns9ohht by user mind0xp
... and more.
- Dec 22, 2020, 11:58:50 AM | New
Suspicious file creation initiated remotely on win-9njrns9ohht by user mind0xp
- Dec 22, 2020, 12:48:39 PM | New
Abnormal remote scheduled task modification on win-9njrns9ohht by user
... and more.
- Dec 22, 2020, 12:48:39 PM | New
Suspicious file creation initiated remotely on win-9njrns9ohht by user

Scope

2 impacted devices
3 impacted users

Top impacted entities

Entity type	Risk level/investigation priority	Tags
Device	High	
Device	High	
User	No data available	
User	No data available	
User	No data available	

View entities

Evidence

31 entities found

View all entities

Incident Information

This incident might be associated with...

Associated Incidents

Incident ID	Reason	Entity
24851	Same file	sqlservr.exe
24576	Same file	legit_payf...
24576	Same file	pay/bwd/dl

Tags summary

Incident tags

Data sensitivity

Device groups

User groups

Incident details

Status

Active

Severity

High

Incident ID

24963

First activity

First - Dec 22, 2020, 1:52:20 AM

Last activity

Last - Dec 22, 2020, 7:09:58 PM

Classification

(Not set)

Determination

Not set

Assigned to

Unassigned

Give feedback

Microsoft Defender Security Center

Alerts > Suspicious LDAP query

Suspicious LDAP query

win-9njrns9ohht.atp.local

ALERT STORY

- [3308] userinit.exe
- [576] explorer.exe
 - liber ATP\mini
 - Suspicious
- File create
 - sqlcsp.exe
 - System f
- [552] cmd.exe
- Suspicious
- Suspicious
- [504] w
- Mass
- Syst
- cmd.exe
- Original f
- Action file
- Mitre text
- Target file
- Syst
- [732] sq
- Mass
- Syst

Microsoft Defender Security Center

Alerts > 'Solorigate' high-severity malware was prevented

'Solorigate' high-severity malware was prevented

Risk level High

ALERT STORY

Microsoft Defender Security Center

Alerts > ADFS private key extraction attempt

ADFS private key extraction attempt

Risk level High

ALERT STORY

- [4280] SecurityHealthSystray.exe
- [7448] OneDrive.exe /background
- File create
 - dump_em_all.exe
 - Suspicious file dropped (Medium, New, Detected)
- [7956] dump_em_all.exe
- Image load
 - dump_em_all.exe
 - Suspicious file dropped (Medium, New, Detected)
 - dump_em_all.exe ran an LDAP query
 - LDAP Search query (&{(thumbnailphoto=*)(objectClass=contact){!(cn=CryptoPolicy)})
 - Distinguished name CN=ADFS,CN=Microsoft,CN=Program Data,DC=ATP,DC=local
 - Action time Jan 10, 2021, 7:09:02 PM
 - ADFS private key extraction attempt (High, New, Detected)
- [7936] WerFault.exe -u -p 7956 -s 1428

Details

ADFS private key extraction attempt

High New

See in timeline Link to another incident Assign to me

Manage alert

Classify this alert True alert False alert

Status New

Classification Select classification...

Alert details

Incident Multi-stage incident involving Execution & Credential access on one endpoint (open in Microsoft 365 Defender)

Detection source EDR

Detection technology Behavioral

Detection status Detected

Category CredentialAccess

Techniques T1003: OS Credential Dumping T1528: Steal Application Access Token

First activity Jan 10, 2021, 7:09:02 PM

Last activity Jan 10, 2021, 7:09:02 PM

Threats > Solorigate supply chain attack

Overview Analyst report Mitigations

Microsoft security researchers recently discovered a sophisticated attack where an adversary inserted malicious code into a supply chain development process. A malicious software class was included among many other legitimate classes and then signed with a legitimate certificate. The resulting binary included a backdoor and was then discreetly distributed into targeted organizations. This attack was discovered as part of an ongoing investigation.

Cybercriminals target supply chains and look for weaknesses they can exploit to discreetly enter another target environment. In this case, attackers targeted the SolarWinds Orion Platform to infiltrate the supply chain that helps businesses manage networks, systems, and information technology infrastructure. This attack leveraged the trust associated with the supplier and certificate to insert targeted code to use in a larger campaign.

Based on research, this attack represents nation-state activity at significant scale, aimed at both the government and private sector. The actor is known to be focused on high value targets such as government agencies and cybersecurity companies.

Microsoft Defender for Endpoint detects this attack. It raises an alert when it detects the threat on your device; however, to avoid adverse impact on legitimate services Microsoft Defender for Endpoint will not automatically remediate it.

Microsoft Defender Antivirus protects against this threat. It blocks the known malicious SolarWinds binaries associated with this threat on your device.

[Read the full analyst report](#)

Devices with alerts over time



■ Devices with active alerts ■ Devices with resolved alerts

Secure configuration status

1.41k misconfigured devices



■ Exposed ■ Secure ■ Unknown ■ Not applicable

[View mitigation details](#)

Devices with alerts

0 devices with active alerts



Vulnerability patching status

0 vulnerable devices



■ Exposed ■ Secure

[View mitigation details](#)

Serie de videos sobre Solorigate

Siguientes pasos

- 01.** Ver la series de videos de Solorigate en esta ubicación
- 02.** Visita Microsoft Security para más actualizaciones:
www.microsoft.com/es-mx/security/business
- 03.** Lee las publicaciones en el blog en:
www.microsoft.com/security/blog

<https://aka.ms/solorigate>

