

ServiceDLL v1.0 Grasshopper Component User Guide

DRAFT



CL BY: 2355679
CL REASON: Section
1.5(c),(e)
DECL ON: 20351003
DRV FRM: COL 6-03

1 Description

ServiceDLL is a Grasshopper component that provides a way to persist a payload as a Windows Service DLL.

The ServiceDLL component installs a stub Service DLL to the Net Services (netsvcs) Service Host using manual registry modifications. The stub is configured to run the input payload whenever the service starts. The stub is stored at a user specified location on the target file system.

The payload is stored as a resource of the ServiceDLL stub. If the payload adheres to the NOD Persistence Spec v1 Interface, the stub will load and execute the payload from memory. If not, the stub will write the payload to the filesystem and load or run it normally. The payload will be placed adjacent to the stub with a `.tlb` file extension.

Due to caching by the Service Control Manager, the service cannot be started directly when first installed. The ServiceDLL component can, optionally, hijack an existing, stopped service DLL's entry in the SCM database to gain immediate execution. This requires that the component write an "Unhijack DLL" to the filesystem, which is deleted by the stub during the first run.

2 Usage

2.1 Builder Command Line

```
add component servicedll -n NAME -p PATH [-d DESC] [-u PATH]
```

```
-n/--name NAME          cover name of the service dll
-p/--path PATH          target path of the service dll stub
-d/--description DESC  cover description of the service dll
-u/--unhijack PATH     target path of the unhijack dll
```

Example

```
(gh) add component servicedll
      -n ExampleService
      -p "C:\windows\system32\example.dll"
      -d "An example of how to create a service dll component."
      -u "%temp%\examplehelper.dll"
```

2.2 Supported Payload Types

ServiceDLL accepts input payloads in EXE or DLL formats for the x86 or x64 architectures. If a DLL supports the NOD Persistence Specification, it will memory load it during execution. ServiceDLL is a terminating component and does not output a payload.

Input Type	Output Type(s)
x86 DLL nod-persist	None
x64 DLL nod-persist	None
x86 DLL	None
x64 DLL	None
x86 EXE	None

x64 EXE

None

2.3 Uninstall Procedure

Manual

The manual uninstall procedure consists of the following steps:

1. Stop the service, if it is running.
`sc stop <SERVICE_NAME>`
2. Delete the service from the Service Control Manager.
`sc delete <SERVICE_NAME>`
3. Reboot the target.
4. Delete the stub and payload executables from the filesystem.
`del /F <SERVICE_PATH> <PAYLOAD_PATH>`

Autonomous

The autonomous uninstall procedure consists of the following steps:

1. Delete the payload from the filesystem while the stub is running.

When the stub detects that the payload has been deleted, it will execute the autonomous uninstall. The stub checks for the payload every 5 seconds. The autonomous uninstall will perform the following steps:

1. Remove the service from the Windows registry.
2. Delete itself from the filesystem.

3 Footprint

File System

- Service Stub Executable, located at a user specified location <STUB_PATH>
- Service Stub Directory, may have been created
- Payload Executable, located at <STUB_PATH-".dll">.tlb
- Payload Directory, may have been created
- Unhijack Executable, located at a user specified location <UNHIJACK_PATH>
- Unhijack Directory, may have been created

Registry Keys

Created

- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>
- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>\ImagePath
- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>\ObjectName
- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>\DelayedAutoStart
- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>\ErrorControl
- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>\Start
- HKLM\SYSTEM\CurrentControlSet\Services\<SERVICE_NAME>\Type

SECRET//NOFORN

- HKLM\SYSTEM\CurrentControlSet\Services\\Parameters
- HKLM\SYSTEM\CurrentControlSet\Services\\Parameters\ServiceDll
- HKLM\SYSTEM\CurrentControlSet\Services\\Description
- HKLM\SYSTEM\CurrentControlSet\Services\\DisplayName

Modified

- HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\SvcHost\netsvcs

Modified (during hijack)

- HKLM\SYSTEM\CurrentControlSet\Services\\Parameters\ServiceDll
- HKLM\SYSTEM\CurrentControlSet\Services\\Parameters\ServiceDll
UnloadOnStop