

persistence-info.github.io

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Windows Platform Binary Table

Location:

UEFI

Classification:

Criteria	Value
Permissions	Other ¹
Security context	System
Persistence type	Other
Code type	EXE ²³
Launch type	Automatic
Impact	Non-destructive
OS Version	All OS versions
Dependencies	OS only
Toolset	Own toolkit required

Description:

Hardware-based persistence.

1. During the OS startup, smss.exe calls NtQuerySystemInformation() function with a SystemPlatformBinaryInformation (0x85) as a parameter.
2. NtQuerySystemInformation() scans UEFI tables stored within hardware memory looking for a piece of data with properly constructed headers.
3. If the correct pattern (“WPBT”, length, revision and a checksum) is found, the structure is passed to the smss.exe.
4. smss.exe stores the piece of UEFI memory within a file called %systemroot%\system32\wpbbin.exe.
5. smss.exe takes execution parameters (command line) from the same UEFI block.
6. The wpbbin.exe is checked for integrity with IMAGE_DLLCHARACTERISTICS_FORCE_INTEGRITY.
7. The wpbbin.exe is executed.

The functionality may be disabled with the DisablewpbtExecution registry value set to 1 in HKLM\SYSTEM\CurrentControlSet\Control\Session Manager (tip by [@Harvesterify](#))

The functionality is not a typical persistence, as it does not rely only on configuration stored within Windows. As written above, the exploitation requires both: writing into UEFI tables AND digital signature meeting IMAGE_DLLCHARACTERISTICS_FORCE_INTEGRITY requirements.

References:

- <http://download.microsoft.com/download/8/a/2/8a2fb72d-9b96-4e2d-a559-4a27cf905a80/windows-platform-binary-table.docx>
- <https://grzegorztworek.medium.com/using-uefi-to-inject-executable-files-into-bitlocker-protected-drives-8ff4ca59c94c>
- <https://github.com/tandasat/WPBT-Builder>

Credits:

[@Harvesterify](#)

See also:

Remarks:

1. File content is stored within UEFI tables. [↵](#)
2. wpbbin.exe is created on disk during boot process [↵](#)
3. The code must rely on ntdll.dll, without any Win32 API calls. [↵](#)