# Malware Analysis Appliance by Blue Coat Systems, Inc.

Task Details

Host: mag2, Sample ID: 34, Task ID: 134

Task ID: 134 Risk Level: 6

Date Processed: 2016-04-28 12:50:35 (UTC)

Processing Time: 61.2 seconds
Virtual Environment: IntelliVM

Execution Arguments: "c:\windows\temp\4221e71f07b19e015be63e5e85c7048e.exe"

Sample ID: 34
Type: basic
Owner: admin

Label: 4221e71f07b19e015be63e5e85c7048e

Date Added: 2016-04-28 12:44:53 (UTC)

File Type: PE32:win32:gui File Size: 659504 bytes

MD5: 4221e71f07b19e015be63e5e85c7048e

SHA256: 0fdbfdf3a384ff2424ccd281acab7caa1cab55145bfa68de95d10b115222f78a

Description: None

## Pattern Matching Results

6 Tries to detect VM environment

5 Creates process in suspicious location

5 PE: Contains compressed section

5 Opens Copy Hook Handlers key

5 Packer: UPX

2 PE: Nonstandard section

#### Static Events

Anomaly: PE: Contains a virtual section

Anomaly: PE: Contains one or more non-standard sections

Packer: UPX

#### Process/Thread Events

Creates process: C:\WINDOWS\Temp\4221e71f07b19e015be63e5e85c7048e.exe

["c:\windows\temp\4221e71f07b19e015be63e5e85c7048e.exe"]

Creates process: C:\DOCUME~1\Admin\LOCALS~1\Temp\RarSFX0\startup.exe

["C:\DOCUME~1\Admin\LOCALS~1\Temp\RarSFX0\startup.exe"]

-a C:\WINDOWS\system32\krn1386.exe]

 $\label{tem:continuous} Terminates process: $C:\DOCUME~1\Admin\LOCALS~1\Temp\RarSFX0\startup.exe$$ C:\WINDOWS\Temp\4221e71f07b19e015be63e5e85c7048e.exe$$$ 

## Named Object Events

Creates mutex: \BaseNamedObjects\CTF.LBES.MutexDefaultS-1-5-21-1757981266-507921405-

1957994488-1003

Creates mutex: \BaseNamedObjects\CTF.Compart.MutexDefaultS-1-5-21-1757981266-507921405-

1957994488-1003

Creates mutex: \BaseNamedObjects\CTF.Asm.MutexDefaultS-1-5-21-1757981266-507921405-

1957994488-1003

Creates mutex: \BaseNamedObjects\CTF.Layouts.MutexDefaultS-1-5-21-1757981266-507921405-

1957994488-1003

Creates mutex: \BaseNamedObjects\CTF.TMD.MutexDefaultS-1-5-21-1757981266-507921405-

1957994488-1003

Creates mutex: \BaseNamedObjects\CTF.TimListCache.FMPDefaultS-1-5-21-1757981266-

507921405-1957994488-1003MUTEX.DefaultS-1-5-21-1757981266-507921405-1957994488-1003

Creates mutex: \BaseNamedObjects\MSCTF.Shared.MUTEX.IN
Creates mutex: \BaseNamedObjects\ZonesCounterMutex

Creates mutex: \BaseNamedObjects\ZoneAttributeCacheCounterMutex

Creates mutex: \BaseNamedObjects\ZonesCacheCounterMutex
Creates mutex: \BaseNamedObjects\ZonesLockedCacheCounterMutex
Creates event: \BaseNamedObjects\userenv: User Profile setup event

Creates event: \BaseNamedObjects\ShellCopyEngineRunning Creates event: \BaseNamedObjects\ShellCopyEngineFinished

Creates semaphore: \BaseNamedObjects\shell.{A48F1A32-A340-11D1-BC6B-00A0C90312E1} \Creates semaphore: \BaseNamedObjects\shell.{7CB834F0-527B-11D2-9D1F-0000F805CA57} \Creates semaphore: \BaseNamedObjects\shell.{210A4BA0-3AEA-1069-A2D9-08002B30309D}

#### File System Events

```
C:\Documents and Settings\Admin
 Creates:
 Creates:
                         C:\DOCUME~1
                         C:\DOCUME~1\Admin
 Creates:
 Creates:
                         C:\DOCUME~1\Admin\LOCALS~1
 Creates:
                         C:\DOCUME~1\Admin\LOCALS~1\Temp
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0
 Creates:
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_user1.cab
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_ISDEL.EXE
 Creates:
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\ setup.dll
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\_sys1.cab
 Creates:
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_INST32I.EX_
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\DATA.TAG
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\data1.cab
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\lang.dat
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\layout.bin
 Creates:
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\os.dat
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\SETUP.EXE
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\SETUP.INI
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.ins
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.lid
 Creates:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\startup.exe
 Creates:
 Creates:
                         C:\WINDOWS\Temp\scs1.tmp
 Creates:
                         C:\WINDOWS\Temp\scs2.tmp
                         C:\WINDOWS\Prefetch\4221E71F07B19E015BE63E5E85C70-22313389.pf
 Opens:
 Opens:
                         C:\Documents and Settings\Admin
 Opens:
                         C:\WINDOWS\Temp\4221e71f07b19e015be63e5e85c7048e.exe
 Opens:
                         C:\WINDOWS\system32\imm32.dll
                         C:\WINDOWS\system32\shell32.dll
 Opens:
 Opens:
                         C:\WINDOWS\system32\SHELL32.DLL.124.Manifest
 Opens:
                         C:\WINDOWS\system32\SHELL32.DLL.124.Config
 Opens:
                         C:\WINDOWS\WinSxS\x86_Microsoft.Windows.Common-
Controls_6595b64144ccf1df_6.0.2600.5512_x-ww_35d4ce83
                         C:\WINDOWS\WinSxS\x86_Microsoft.Windows.Common-
Controls 6595b64144ccf1df 6.0.2600.5512 x-ww 35d4ce83\comctl32.dll
                         C:\WINDOWS\WindowsShell.Manifest
 Opens:
                         C:\WINDOWS\WindowsShell.Config
 Opens:
                         C:\WINDOWS\system32\comctl32.dll
 Opens:
                         C:\WINDOWS\system32\comctl32.dll.124.Manifest
 Opens:
                         C:\WINDOWS\system32\comctl32.dll.124.Config
 Opens:
                         C:\WINDOWS\system32\riched32.dll
 Opens:
                         C:\WINDOWS\system32\riched20.dll
 Opens:
                         C:\WINDOWS\Fonts\sserife.fon
 Opens:
                         C:\WINDOWS\system32\MSCTF.dll
 Opens:
                         C:\WINDOWS\system32\MSCTFIME.IME
 Opens:
                         C:\WINDOWS\system32\ole32.dll
 Opens:
                         C:\WINDOWS\win.ini
 Opens:
                         C:\WINDOWS\system32\MSIMTF.dll
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_user1.cab
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_ISDEL.EXE
 Opens:
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_setup.dll
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\_sys1.cab
 Opens:
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\_INST32I.EX_
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\DATA.TAG
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\data1.cab
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\lang.dat
 Opens:
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\layout.bin
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\os.dat
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\SETUP.EXE
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\SETUP.INI
 Opens:
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.ins
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.lid
 Opens:
                         C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\startup.exe
 Opens:
                         C:\WINDOWS\system32\rpcss.dll
 Opens:
                         C:\WINDOWS\system32\netapi32.dll
                         C:\WINDOWS\system32\setupapi.dll
 Opens:
                         C:\
 Opens:
 Opens:
                         C:\Documents and Settings
 Opens:
                         C:\Documents and Settings\Admin\My Documents\desktop.ini
 Opens:
                         C:\Documents and Settings\All Users
```

Opens: C:\Documents and Settings\All Users\Documents\desktop.ini Opens: C:\WINDOWS\system32\clbcatq.dll Opens: C:\WINDOWS\system32\comres.dll C:\WINDOWS\Registration\R00000000007.clb Opens: Opens: C:\WINDOWS\system32\urlmon.dll C:\WINDOWS\system32\urlmon.dll.123.Manifest Opens: Opens: C:\WINDOWS\system32\urlmon.dll.123.Config Opens: C:\Documents and Settings\Admin\Local Settings Opens: C:\Documents and Settings\Admin\Local Settings\Temp Opens: C:\WINDOWS\system32\apphelp.dll Opens: C:\WINDOWS\AppPatch\sysmain.sdb Opens: C:\WINDOWS\AppPatch\systest.sdb Opens: C:\DOCUME~1\Admin\LOCALS~1\Temp\RarSFX0\startup.exe.Manifest Opens: C:\WINDOWS\Prefetch\STARTUP.EXE-0A79CD8C.pf Opens: C:\WINDOWS\system32\msvbvm60.dll Opens: C:\WINDOWS\system32\sxs.dll Opens: C:\WINDOWS\system32\ntvdm.exe Opens: C:\WINDOWS\system32\ntvdm.exe.Manifest Opens: C:\WINDOWS\Prefetch\NTVDM.EXE-1A10A423.pf Opens: C:\WINDOWS\\_default.pif C:\WINDOWS\system32\ntvdmd.dll Opens: C:\WINDOWS\system32\ntio.sys Opens: Opens: C:\WINDOWS\system32\ntdos.sys Opens: C:\WINDOWS\system32\CONFIG.NT Opens: C:\WINDOWS\Temp\scs1.tmp Opens: C:\WINDOWS\system32\himem.sys Opens: C:\WINDOWS\system32\country.sys Opens: C: Opens: C:\WINDOWS\system32\command.com Opens: C:\WINDOWS\SYSTEM32 Opens: C:\WINDOWS\system32\AUTOEXEC.NT Opens: C:\WINDOWS\Temp\scs2.tmp Opens: C:\Program Files Opens: C:\WINDOWS\system32 C:\WINDOWS\system32\mscdexnt.exe Opens: Opens: C:\WINDOWS\system32\redir.exe Opens: C:\WINDOWS\system32\dosx.exe Opens: C:\WINDOWS\system.ini C:\WINDOWS\WINHELP.INI Opens: Opens: C:\WINDOWS\system32\shdocvw.dll Opens: C:\WINDOWS\system32\mydocs.dll Opens: C:\WINDOWS\system32\mydocs.dll.123.Manifest C:\WINDOWS\system32\mydocs.dll.123.Config Opens: Opens: C:\DOCUME~1\Admin\LOCALS~1\Temp\ntshrui.dll Opens: C:\WINDOWS\Temp\bc8b46bf-dfae-4199-b4c2-593ea8b15843 Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_user1.cab Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_ISDEL.EXE C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_setup.dll Writes to: Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\\_sys1.cab Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_INST32I.EX\_ Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\DATA.TAG Writes to:  ${\tt C:\Documents\ and\ Settings\Admin\Local\ Settings\Temp\RarSFX0\data1.cab}$ Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\lang.dat Writes to:  ${\tt C:\Documents\ and\ Settings\Admin\Local\ Settings\Temp\RarSFX0\os.dat}$ Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\SETUP.EXE Writes to:  ${\tt C:\Documents\ and\ Settings\Admin\Local\ Settings\Temp\RarSFX0\SETUP.INI}$ Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.ins Writes to: Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.lid

C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\layout.bin Writes to: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\startup.exe Writes to: C:\WINDOWS\Temp\scs1.tmp

Writes to: C:\WINDOWS\Temp\scs2.tmp

Reads from: C:\WINDOWS\Temp\4221e71f07b19e015be63e5e85c7048e.exe

C:\WINDOWS\win.ini Reads from:

Reads from: C:\Documents and Settings\Admin\My Documents\desktop.ini Reads from: C:\Documents and Settings\All Users\Documents\desktop.ini

Reads from: C:\WINDOWS\Registration\R00000000007.clb

Reads from: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\startup.exe

Reads from: C:\WINDOWS\\_default.pif Reads from: C:\WINDOWS\system32\ntio.sys C:\WINDOWS\system32\ntdos.sys Reads from: Reads from: C:\WINDOWS\system32\CONFIG.NT C:\WINDOWS\Temp\scs1.tmp Reads from: Reads from: C:\WINDOWS\system32\himem.sys Reads from: C:\WINDOWS\system32\country.sys
Reads from: C:\WINDOWS\system32\command.com
Reads from: C:\WINDOWS\system32\AUTOEXEC.NT
Reads from: C:\WINDOWS\Temp\scs2.tmp

Reads from: C:\WINDOWS\system32\mscdexnt.exe
Reads from: C:\WINDOWS\system32\redir.exe
Reads from: C:\WINDOWS\system32\dosx.exe

Reads from: C:\WINDOWS\system.ini

Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\DATA.TAG Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\data1.cab Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\lang.dat C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\layout.bin Deletes: Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\os.dat Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\SETUP.EXE Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\SETUP.INI Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\setup.ins Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\setup.lid Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0\startup.exe Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_INST32I.EX\_ Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_ISDEL.EXE C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_setup.dll Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_sys1.cab Deletes: Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFXO\\_user1.cab Deletes: C:\Documents and Settings\Admin\Local Settings\Temp\RarSFX0

### Windows Registry Events

Creates key: HKCU\software\microsoft\windows\currentversion\explorer\user shell

folders

Creates key: HKCU\software\microsoft\windows\currentversion\explorer\shell folders

Creates key:

 $HKCU \setminus software \setminus microsoft \setminus windows \setminus current version \setminus explorer \setminus mountpoints 2 \setminus \{f90255c2 - 6bc4 - 11e3 - 9fc7 - 12e3 - 1$ 

806d6172696f}\

Creates key: HKLM\software\microsoft\windows\currentversion\explorer\user shell

folders

Creates key: HKLM\software\microsoft\windows\currentversion\explorer\shell folders

Creates key: HKCU\software\vb and vba program settings\atstart\preferences

Creates key: HKCU\software

Creates key: HKCU\software\vb and vba program settings

Creates key: HKCU\software\vb and vba program settings\atstart

Creates key: HKLM\software\microsoft\windows\currentversion\shell extensions\blocked Creates key: HKCU\software\microsoft\windows\currentversion\shell extensions\blocked extensions\blocked HKLM\software\microsoft\windows\currentversion\shell extensions\cached extensions\cached HKCU\software\microsoft\windows\currentversion\shell extensions\cached extensions\cached HKCU\software\microsoft\windows\nt\currentversion\image file execution options\4221e71f07b19e015be63e5e85c7048e.exe

Opens key: HKLM\system\currentcontrolset\control\terminal server

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\secur32.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\rpcrt4.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\advapi32.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\winlogon

Opens key: HKLM\

Opens key: HKLM\software\microsoft\windows nt\currentversion\diagnostics

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\user32.dll

Opens key: HKLM\system\currentcontrolset\control\session manager
Opens key: HKLM\system\currentcontrolset\control\safeboot\option

Opens key: HKLM\software\policies\microsoft\windows\safer\codeidentifiers Opens key: HKCU\software\policies\microsoft\windows\safer\codeidentifiers

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\imm32.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\ntdll.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\kernel32.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\gdi32.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\msvcrt.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\shlwapi.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\shell32.dll

Opens key: HKLM\system\currentcontrolset\control\error message instrument\
Opens key: HKLM\system\currentcontrolset\control\error message instrument
Opens key: HKLM\software\microsoft\windows nt\currentversion\gre\_initialize
Opens key: HKLM\software\microsoft\windows nt\currentversion\compatibility32
Opens key: HKLM\software\microsoft\windows nt\currentversion\ime compatibility

Opens key: HKLM\software\microsoft\windows nt\currentversion\windows

Opens key: HKLM\software\microsoft\windows\currentversion\explorer\performance

Opens key: HKLM\system\setup

Opens key: HKCU\

Opens key: HKCU\software\policies\microsoft\control panel\desktop

Opens key: HKCU\control panel\desktop

Opens key:

HKLM\software\microsoft\windows\currentversion\sidebyside\assemblystorageroots

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\comctl32.dll

Opens key: HKCU\software\microsoft\windows\currentversion\explorer\advanced
Opens key: HKLM\software\microsoft\windows nt\currentversion\languagepack

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\riched20.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\riched32.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\msctf.dll
 Opens key:

HKLM\software\microsoft\ctf\compatibility\4221e71f07b19e015be63e5e85c7048e.exe

Opens key: HKLM\software\microsoft\ctf\systemshared\

Opens key: HKCU\keyboard layout\toggle Opens key: HKLM\software\microsoft\ctf\

Opens key: HKLM\software\microsoft\windows nt\currentversion\imm

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\version.dll

Opens key: HKCU\software\microsoft\windows nt\currentversion\appcompatflags\layers
Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\msctfime.ime

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

 $options \verb|\ole32.dll|$ 

Opens key: HKLM\software\microsoft\ole

Opens key: HKCR\interface

Opens key: HKCR\interface\{00020400-0000-0000-0000-000000000046}

Opens key: HKCU\software\microsoft\ctf

Opens key:  ${\tt HKLM \backslash software \backslash microsoft \backslash ctf \backslash systems hared}$ 

Opens key: HKCU\software\microsoft\windows nt\currentversion\windows

Opens key: HKCU\software\microsoft\ctf\langbaraddin\
Opens key: HKLM\software\microsoft\ctf\langbaraddin\

Opens key: HKCU\software\microsoft\windows\currentversion\explorer
Opens key: HKLM\software\microsoft\windows\currentversion\explorer

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\netapi32.dll

Opens key: HKLM\software\microsoft\rpc\pagedbuffers

Opens key: HKLM\software\microsoft\rpc

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

Opens key: HKLM\system\currentcontrolset\control\computername\activecomputername
Opens key: HKLM\software\microsoft\windows\currentversion\policies\explorer
Opens key: HKCU\software\microsoft\windows\currentversion\policies\explorer

Opens key:

HKLM\software\microsoft\windows\currentversion\shellcompatibility\applications\4221e71f07b19e015be63e5e85c7048e.exe

Opens key:

a2d8-08002b30309d}

Opens key: HKCU\software\classes\

Opens key: HKCU\software\classes\clsid\{20d04fe0-3aea-1069-a2d8-

08002b30309d}\inprocserver32

Opens key: HKCR\clsid\{20d04fe0-3aea-1069-a2d8-08002b30309d}\inprocserver32

Opens key: HKCU\software\classes\drive\shellex\folderextensions

Opens key: HKCR\drive\shellex\folderextensions

4442-804e-409d6c4515e9}

Opens key: HKCR\drive\shellex\folderextensions\{fbeb8a05-beee-4442-804e-

409d6c4515e9}

Opens key: HKCU\software\microsoft\windows\currentversion\explorer\fileexts
Opens key: HKCU\software\microsoft\windows\currentversion\explorer\fileexts\.exe

Opens key: HKCU\software\classes\.exe

Opens key: HKCR\.exe

Opens key: HKCU\software\classes\exefile

Opens key: HKCR\exefile

Opens key: HKCU\software\classes\exefile\curver

Opens key: HKCR\exefile\curver
Opens key: HKCR\exefile\

Opens key: HKCU\software\microsoft\windows\currentversion\explorer\
Opens key: HKCU\software\microsoft\windows\currentversion\policies\system

Opens key: HKCU\software\classes\exefile\shellex\iconhandler

Opens key: HKCR\exefile\shellex\iconhandler

Opens key: HKCU\software\classes\systemfileassociations\.exe

Opens key: HKCR\systemfileassociations\.exe

Opens key: HKCU\software\classes\systemfileassociations\application

Opens key: HKCR\systemfileassociations\application Opens key: HKCU\software\classes\exefile\clsid

Opens key: HKCR\exefile\clsid
Opens key: HKCU\software\classes\\*

Opens key: HKCR\\*

Opens key: HKCU\software\classes\\*\clsid

Opens key: HKCR\\*\clsid

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\setupapi.dll

Opens key: HKLM\system\currentcontrolset\control\minint

Opens key: HKLM\system\wpa\pnp

Opens key: HKLM\software\microsoft\windows\currentversion\setup
Opens key: HKLM\software\microsoft\windows\currentversion

Opens key: HKLM\software\microsoft\windows\currentversion\setup\apploglevels

Opens key: HKLM\system\currentcontrolset\services\tcpip\parameters
Opens key: HKLM\software\policies\microsoft\system\dnsclient

Opens key:

HKCU\software\microsoft\windows\currentversion\explorer\mountpoints2\cpc\volume

Opens key:

 $\label{thm:local-condition} HKCU software \endows \e$ 

Opens key: HKCU\software\classes\directory

Opens key: HKCR\directory

Opens key: HKCU\software\classes\directory\curver

Opens key: HKCR\directory\curver
Opens key: HKCR\directory\

Opens key: HKCU\software\classes\directory\shellex\iconhandler

Opens key: HKCR\directory\shellex\iconhandler
Opens key: HKCU\software\classes\directory\clsid

Opens key: HKCR\directory\clsid

Opens key: HKCU\software\classes\folder

Opens key: HKCR\folder

Opens key: HKCU\software\classes\folder\clsid

Opens key: HKCR\folder\clsid

Opens key:

HKLM\software\microsoft\windows\currentversion\explorer\shellexecutehooks
Opens key: HKCU\software\classes\clsid\{aeb6717e-7e19-11d0-97ee-

00c04fd91972\inprocserver32

Opens key: HKCR\clsid\{aeb6717e-7e19-11d0-97ee-00c04fd91972}\inprocserver32

Opens key: HKLM\software\microsoft\windows\currentversion\policies\associations

Opens key: HKCU\software\microsoft\windows\currentversion\policies\associations

Opens key: HKCU\software\classes\.ade

Opens key: HKCR\.ade

Opens key: HKCU\software\classes\.adp

Opens key: HKCR\.adp

Opens key: HKCU\software\classes\.app

Opens key: HKCR\.app

Opens key: HKCU\software\classes\.asp

Opens key: HKCR\.asp

Opens key: HKCU\software\classes\.bas

Opens key: HKCR\.bas

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Opens key: HKCU\software\classes\.cer

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Opens key: HKCU\software\classes\.chm

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Opens key: HKCU\software\classes\.cmd

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Opens key: HKCU\software\classes\.com

Opens key: HKCR\.com

Opens key: HKCU\software\classes\.cpl

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Opens key: HKCU\software\classes\.crt

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Opens key: HKCU\software\classes\.csh

Opens key: HKCR\.csh

Opens key: HKLM\software\microsoft\com3

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\comres.dll

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Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

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Opens key: HKLM\software\microsoft\com3\debug

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options\iertutil.dll

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options\urlmon.dll

Opens key: HKCU\software\classes\protocols\name-space handler\

Opens key: HKCR\protocols\name-space handler

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Opens key: HKCU\software\policies\microsoft\windows\currentversion\internet

settings

Opens key: HKLM\software\microsoft\windows\currentversion\internet settings Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet

settings

Opens key: HKCU\software\microsoft\internet explorer\main\featurecontrol\feature\_protocol\_lockdown Opens key: HKLM\software\microsoft\internet explorer\main\featurecontrol\feature\_protocol\_lockdown

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Opens key: HKCU\software\microsoft\internet

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Opens key: HKLM\software\microsoft\internet

explorer\main\featurecontrol\feature\_ignore\_policies\_zonemap\_if\_esc\_enabled\_kb918915

Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet

settings\zonemap\domains\

Opens key: HKCU\software\policies\microsoft\windows\currentversion\internet

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Opens key:

settings\zones\3 Opens key: HKCU\software\policies\microsoft\windows\currentversion\internet settings\zones\3 Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\zones\4 Opens key: HKCU\software\policies\microsoft\windows\currentversion\internet settings\zones\4 HKCU\software\microsoft\internet Opens key: explorer\main\featurecontrol\feature\_localmachine\_lockdown Opens key: HKLM\software\microsoft\internet explorer\main\featurecontrol\feature\_localmachine\_lockdown Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\ Opens key: HKCU\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\ Opens key: HKCU\software\microsoft\windows\currentversion\internet settings\lockdown\_zones\ Opens key: HKCU\software\microsoft\windows\currentversion\internet settings\lockdown\_zones\0 Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\0 HKCU\software\policies\microsoft\windows\currentversion\internet Opens key: settings\lockdown\_zones\0 HKCU\software\microsoft\windows\currentversion\internet Opens key: settings\lockdown\_zones\1 Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\1 HKCU\software\policies\microsoft\windows\currentversion\internet Opens key: settings\lockdown\_zones\1 HKCU\software\microsoft\windows\currentversion\internet Opens key: settings\lockdown\_zones\2 Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\2 HKCU\software\policies\microsoft\windows\currentversion\internet Opens key: settings\lockdown\_zones\2 Opens key: HKCU\software\microsoft\windows\currentversion\internet settings\lockdown\_zones\3 Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\3 HKCU\software\policies\microsoft\windows\currentversion\internet Opens key: settings\lockdown\_zones\3 Opens key: HKCU\software\microsoft\windows\currentversion\internet settings\lockdown\_zones\4 Opens key: HKLM\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\4 Opens key: HKCU\software\policies\microsoft\windows\currentversion\internet settings\lockdown\_zones\4 Opens key: HKCU\software\microsoft\internet explorer\main\featurecontrol\feature\_zones\_default\_drive\_intranet\_kb941000 HKLM\software\microsoft\internet Opens key: explorer\main\featurecontrol\feature\_zones\_default\_drive\_intranet\_kb941000 Opens key: HKCU\software\classes\exefile\shell Opens key: HKCR\exefile\shell Opens key: HKCU\software\classes\exefile\shell\open Opens key: HKCR\exefile\shell\open Opens key: HKCU\software\classes\exefile\shell\open\command Opens key: HKCR\exefile\shell\open\command Opens key: HKCU\software\microsoft\windows\currentversion\policies\explorer\restrictrun Opens key: HKLM\software\microsoft\windows\currentversion\app paths\startup.exe Opens key: HKCU\software\classes\exefile\shell\open\ddeexec Opens key: HKCR\exefile\shell\open\ddeexec Opens key: HKCU\software\classes\applications\startup.exe Opens key: HKCR\applications\startup.exe HKCU\software\microsoft\windows\shellnoroam Opens key: Opens key: HKCU\software\microsoft\windows\shellnoroam\muicache Opens key: HKCU\software\microsoft\windows\shellnoroam\muicache\ Opens key: HKLM\software\microsoft\windows\currentversion\explorer\fileassociation

HKLM\system\currentcontrolset\control\session manager\appcertdlls

HKLM\system\currentcontrolset\control\session manager\appcompatibility

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution options\apphelp.dll
Opens key: HKLM\system\wpa\tabletpc

HKLM\system\wpa\mediacenter

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Opens key: HKLM\software\microsoft\windows nt\currentversion\appcompatflags\layers

Opens key: HKLM\software\microsoft\windows nt\currentversion\appcompatflags\custom\startup.exe

Opens key: HKLM\software\policies\microsoft\windows\safer\levelobjects

Opens key: HKLM\software\policies\microsoft\windows\safer\codeidentifiers\0\paths

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Opens key: HKLM\software\policies\microsoft\windows\safer\codeidentifiers\0\hashes

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 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{7fb9cd2e-3076-4df9-a57b-b813f72dbb91\}$ 

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Opens key:

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Opens key:

HKCU\software\policies\microsoft\windows\safer\codeidentifiers\262144\urlzones

Opens key: HKCU\software\microsoft\windows\currentversion\explorer\shell folders
Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\startup.exe

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\msvbvm60.dll

Opens key: HKLM\software\microsoft\ctf\compatibility\startup.exe

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\sxs.dll

Opens key: HKLM\system\currentcontrolset\control\nls\codepage

Opens key: HKLM\software\microsoft\vba\monitors

Opens key: HKCU\software\microsoft\internet explorer\main
Opens key: HKLM\system\currentcontrolset\control\wow

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\ntvdm.exe

Opens key: HKLM\system\currentcontrolset\control\wow\cpuenv

Opens key: HKLM\hardware\description\system

Opens key: HKLM\system\currentcontrolset\control\virtualdevicedrivers

Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\ntvdmd.dll

Opens key: HKLM\software\microsoft\windows nt\currentversion\terminal server
Opens key: HKLM\software\microsoft\windows nt\currentversion\image file execution

options\userenv.dll

Opens key: HKLM\system\currentcontrolset\control\productoptions

Opens key: HKCU\software\microsoft\windows\currentversion\explorer\user shell

folders

Opens key: HKLM\software\policies\microsoft\windows\system

Opens key: HKLM\system\currentcontrolset\control\session manager\environment

Opens key: HKLM\software\microsoft\windows

Opens key: HKLM\software\microsoft\windows\html help
Opens key: HKLM\software\microsoft\windows\help

Opens key: HKCU\software\classes\directory\shellex\copyhookhandlers

Opens key: HKCR\directory\shellex\copyhookhandlers

Opens key: HKCU\software\classes\directory\shellex\copyhookhandlers\cdf

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Opens key: HKCU\software\classes\clsid\{67ea19a0-ccef-11d0-8024-

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Opens key: HKLM\software\microsoft\windows\currentversion\app paths\setup.exe
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Queries value: HKLM\system\currentcontrolset\control\terminal server[tsuserenabled]
Queries value: HKLM\software\microsoft\windows nt\currentversion\winlogon[leaktrack]
Queries value: HKLM\system\currentcontrolset\control\session manager[safedllsearchmode]

Queries value:

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nt\currentversion\gre\_initialize[disablemetafiles]

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Queries value:

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Oueries value: HKCU\software\microsoft\windows\currentversion\policies\explorer[nointerneticon]

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Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[nosetfolders]

Queries value: HKCR\clsid\{20d04fe0-3aea-1069-a2d8-08002b30309d}\inprocserver32[] Queries value:  $HKCR \ drive \ shell ex \ folder extensions \ \ \{fbeb8a05-beee-4442-804e-beea4444-beea444-beea4444-beea444-beea4444-beea444-beea444-beea4444-beea444-beea4444-beea444-beea444-beea444-beea444-beea4444-beea444-beea444-beea4444-beea444-beea4444-beea4444-beea444-beea4444-beea4444-beea444-beea4444-beea4444-beea4444-beea4444-beea444-beea4444-beea4444-beea444-beea44444-beea44440-beea44440-beea4444-beea4444-beea4444-beea4444-beea444-beea4444-beea444-beea4$ 

409d6c4515e9}[drivemask]

Queries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[allowfileclsidjunctions]

Queries value: HKCR\.exe[]

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[dontshowsuperhidden]

HKCU\software\microsoft\windows\currentversion\explorer[shellstate] Queries value:

Queries value:

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[noactivedesktop]

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[nowebview] Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[classicshell]

Queries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[separateprocess]

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[nonetcrawling]

HKCU\software\microsoft\windows\currentversion\policies\explorer[nosimplestartmenu]

HKCU\software\microsoft\windows\currentversion\explorer\advanced[hidden] Queries value:

```
Queries value:
HKCU\software\microsoft\windows\currentversion\explorer\advanced[showcompcolor]
HKCU\software\microsoft\windows\currentversion\explorer\advanced[hidefileext]
   Oueries value:
HKCU\software\microsoft\windows\currentversion\explorer\advanced[dontprettypath]
HKCU \ software \ \verb|microsoft| windows \ \verb|currentversion| explorer \ \verb|advanced| [showinfotip]|
   Oueries value:
HKCU\software\microsoft\windows\currentversion\explorer\advanced[hideicons]
HKCU\software\microsoft\windows\currentversion\explorer\advanced[mapnetdrvbtn]
   Oueries value:
HKCU\software\microsoft\windows\currentversion\explorer\advanced[webview]
   Queries value:
                                          HKCU\software\microsoft\windows\currentversion\explorer\advanced[filter]
   Queries value:
\label{lem:hkcu} \begin{tabular}{ll} HKCU \software \verb|\microsoft| windows \verb|\currentversion| explorer \verb|\advanced| [showsuperhidden] \\ \end{tabular}
   Oueries value:
HKCU\software\microsoft\windows\currentversion\explorer\advanced[separateprocess]
   Queries value:
HKCU\software\microsoft\windows\currentversion\explorer\advanced[nonetcrawling]
                                          HKCR\exefile[docobject]
   Oueries value:
   Queries value:
                                          HKCR\exefile[browseinplace]
   Queries value:
                                          HKCR\exefile[isshortcut]
   Queries value:
                                          HKCR\exefile[alwaysshowext]
   Queries value:
                                          HKCR\exefile[nevershowext]
   Queries value:
                                          HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[personal]
   Queries value:
                                          HKLM\system\wpa\pnp[seed]
   Queries value:
                                          HKLM\system\setup[osloaderpath]
   Oueries value:
                                          HKLM\system\setup[systempartition]
   Queries value:
                                          HKLM\software\microsoft\windows\currentversion\setup[sourcepath]
   Oueries value:
HKLM\software\microsoft\windows\currentversion\setup[servicepacksourcepath]
   Oueries value:
HKLM\software\microsoft\windows\currentversion\setup[servicepackcachepath]
   Oueries value:
                                          HKLM\software\microsoft\windows\currentversion\setup[drivercachepath]
   Queries value:
                                          HKLM\software\microsoft\windows\currentversion[devicepath]
   Oueries value:
                                          HKLM\software\microsoft\windows\currentversion\setup[loglevel]
                                          HKLM\software\microsoft\windows\currentversion\setup[logpath]
   Oueries value:
   Queries value:
                                          HKLM\system\currentcontrolset\services\tcpip\parameters[hostname]
   Queries value:
                                          HKLM\system\currentcontrolset\services\tcpip\parameters[domain]
   Oueries value:
HKCU \setminus software \setminus microsoft \setminus windows \setminus current version \setminus explorer \setminus mount points 2 \setminus cpc \setminus volume \setminus \{f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-6bc4-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f9025c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f90255c2-f9025c2-f90255c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f9025c2-f902
11e3-9fc7-806d6172696f}[data]
   Queries value:
HKCU\software\microsoft\windows\currentversion\explorer\mountpoints2\cpc\volume\{f90255c2-6bc4-
11e3-9fc7-806d6172696f}[generation]
   Queries value:
                                          HKCR\directory[docobject]
                                          HKCR\directory[browseinplace]
   Queries value:
   Queries value:
                                          HKCR\directory[isshortcut]
   Queries value:
                                          HKCR\directory[alwaysshowext]
   Oueries value:
                                          HKCR\directory[nevershowext]
   Queries value:
HKCU\software\microsoft\windows\currentversion\policies\explorer[usedesktopinicache]
   Queries value:
                                          HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common documents]
   Queries value:
                                          HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[desktop]
   Queries value:
                                          HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common desktop]
   Queries value:
                                          HKCR\clsid\{aeb6717e-7e19-11d0-97ee-00c04fd91972}\inprocserver32[]
                                          HKCR\clsid\{aeb6717e-7e19-11d0-97ee-
   Oueries value:
00c04fd91972}\inprocserver32[loadwithoutcom]
   Queries value:
                                          HKCR\.asp[]
   Queries value:
                                          HKCR\.bat[]
   Queries value:
                                          HKCR\.cer[]
   Queries value:
                                          HKCR\.chm[]
   Queries value:
                                          HKCR\.cmd[]
   Queries value:
                                          HKCR\.com[]
   Queries value:
                                          HKCR\.cpl[]
   Queries value:
                                          HKCR\.crt[]
   Queries value:
                                          HKLM\software\microsoft\com3[com+enabled]
```

 ${\tt HKLM \setminus software \setminus microsoft \setminus ole[minimum free mempercentage to create process]}$ 

Queries value:

Queries value: HKLM\software\microsoft\ole[minimumfreemempercentagetocreateobject]

Queries value: HKLM\software\microsoft\com3[regdbversion] Queries value: HKCR\clsid\{7b8a2d94-0ac9-11d1-896c-

00c04fb6bfc4}\inprocserver32[inprocserver32]

HKCR\clsid\{7b8a2d94-0ac9-11d1-896c-00c04fb6bfc4}\inprocserver32[] Oueries value:

Queries value: HKCR\clsid\{7b8a2d94-0ac9-11d1-896c-00c04fb6bfc4}[appid]

Queries value: HKCR\clsid\{7b8a2d94-0ac9-11d1-896c-

00c04fb6bfc4}\inprocserver32[threadingmodel]

Oueries value: HKLM\software\microsoft\windows\currentversion\internet

settings[disableimprovedzonecheck]

HKLM\software\microsoft\internet Oueries value:

explorer\main\featurecontrol\feature\_protocol\_lockdown[4221e71f07b19e015be63e5e85c7048e.exe]

HKLM\software\microsoft\internet Oueries value: explorer\main\featurecontrol\feature protocol lockdown[\*]

Queries value: HKCU\software\microsoft\internet explorer\ietld[ietlddllversionlow] Queries value: HKCU\software\microsoft\internet explorer\ietld[ietlddllversionhigh]

Queries value: HKCU\software\microsoft\windows\currentversion\internet

settings[createuricachesize]

Queries value: HKLM\software\microsoft\windows\currentversion\internet

settings[createuricachesize]

Queries value: HKCU\software\microsoft\windows\currentversion\internet

settings[enablepunycode]

HKLM\software\microsoft\windows\currentversion\internet Queries value:

settings[enablepunycode]

Queries value: HKLM\software\policies\microsoft\internet

explorer\security[disablesecuritysettingscheck]

HKCU\software\microsoft\windows\currentversion\internet Oueries value:

settings\zones\0[flags]

Queries value: HKCU\software\microsoft\windows\currentversion\internet

settings\zones\1[flags]

HKCU\software\microsoft\windows\currentversion\internet Oueries value:

settings\zones\2[flags]

HKCU\software\microsoft\windows\currentversion\internet Oueries value:

settings\zones\3[flags]

HKCU\software\microsoft\windows\currentversion\internet Oueries value:

settings\zones\4[flags]

Queries value: HKCU\software\microsoft\internet

explorer\main\featurecontrol\feature\_localmachine\_lockdown[4221e71f07b19e015be63e5e85c7048e.exe]

HKCU\software\microsoft\internet Queries value: explorer\main\featurecontrol\feature\_localmachine\_lockdown[\*] Queries value: HKLM\software\microsoft\internet

explorer\main\featurecontrol\feature\_localmachine\_lockdown[4221e71f07b19e015be63e5e85c7048e.exe]

Oueries value: HKLM\software\microsoft\internet explorer\main\featurecontrol\feature\_localmachine\_lockdown[\*]

Queries value: HKCU\software\microsoft\windows\currentversion\internet

settings[specialfolderscachesize]

settings[specialfolderscachesize]

Queries value:

HKCU\software\microsoft\windows\currentversion\explorer\user shell folders[cache]

Queries value:

Queries value:

HKCU\software\microsoft\windows\currentversion\explorer\user shell folders[cookies]

Oueries value:

HKCU\software\microsoft\windows\currentversion\internet

settings\zones\0[1806]

Queries value: HKCR\exefile\shell[]

HKCR\exefile\shell\open\command[] Queries value: Oueries value: HKCR\exefile\shell\open\command[command]

Queries value: HKCU\software\microsoft\windows\shellnoroam\muicache[langid]

Queries value:

HKCU\software\microsoft\windows\shellnoroam\muicache[c:\docume~1\admin\locals~1\temp\rarsfx0\startup.exe]

HKLM\software\microsoft\windows\currentversion\internet

Oueries value:

HKLM\software\microsoft\windows\currentversion\explorer\fileassociation[cutlist]

HKCU\software\microsoft\windows\currentversion\policies\explorer[inheritconsolehandles]

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[restrictrun]

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[disallowrun]

Oueries value:

HKCU\software\microsoft\windows\currentversion\policies\explorer[norunasinstallprompt]

Queries value: HKLM\system\currentcontrolset\control\session

manager\appcompatibility[disableappcompat]

HKLM\system\wpa\mediacenter[installed] Oueries value:

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers[authenticodeenabled]

Queries value: HKLM\software\policies\microsoft\windows\safer\codeidentifiers[levels]

Queries value:

Queries value:

 $HKLM software \verb|\policies| microsoft| windows safer \verb|\codeidentifiers| 0 \verb|\policies| windows safer| be 2efd 2c1a33 \verb|\codeidentifiers| safer flags|$ 

Oueries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{349d35ab-37b5-462f-9b89-edd5fbde \ 1328\} \ [itemdata]$ 

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers\0\hashes\{349d35ab-37b5-462f-9b89-edd5fbde1328}[hashalg]

Oueries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{349d35ab-37b5-462f-9b89-edd5fbde 1328\} \ [itemsize]$ 

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{349d35ab-37b5-462f-9b89-edd5fbde 1328\} \ [saferflags]$ 

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{7fb9cd2e-3076-4df9-a57b-b813f72dbb91\} [itemdata]$ 

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers\0\hashes\{7fb9cd2e-3076-4df9-a57b-b813f72dbb91}[hashalg]

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{7fb9cd2e-3076-4df9-a57b-b813f72dbb91\} [itemsize]$ 

Queries value:

 $HKLM \setminus software \setminus policies \setminus irrosoft \setminus ir$ 

Oueries value:

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers\0\hashes\{81d1fe15-dd9d-4762-b16d-7c29ddecae3f}[hashalg]

Queries value:

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{81d1fe15-dd9d-4762-b16d-7c29ddecae3f\} \ [saferflags]$ 

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{94e3e076-8f53-42a5-8411-085bcc18a68d\} \ [itemdata]$ 

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{94e3e076-8f53-42a5-8411-085bcc18a68d\} \ [hashalg]$ 

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{94e3e076-8f53-42a5-8411-085bcc18a68d\} [itemsize]$ 

Queries value:

 $\label{thm:local-bound} HKLM \software \policies \microsoft \windows \safer \code identifiers \0 \hashes \{94e3e076-8f53-42a5-8411-085bcc18a68d} \ [saferflags]$ 

Oueries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{dc971ee5-44eb-4fe4-ae2e-b91490411bfc\} [itemdata]$ 

Queries value:

 $HKLM \ software \ policies \ microsoft \ windows \ safer \ code identifiers \ 0 \ hashes \ \{dc971ee5-44eb-4fe4-ae2e-b91490411bfc\} \ [hashalg]$ 

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers\0\hashes\{dc971ee5-44eb-4fe4-ae2e-b91490411bfc}[itemsize]

Oueries value:

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers[defaultlevel]

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers[policyscope]

Queries value: HKCU\software\microsoft\windows\currentversion\explorer\shell

folders[cache]

Queries value:

HKLM\software\policies\microsoft\windows\safer\codeidentifiers[logfilename]

Queries value: HKLM\software\microsoft\windows

nt\currentversion\compatibility32[startup]

Oueries value: HKLM\software\microsoft\windows nt\currentversion\ime

compatibility[startup]

Queries value: HKLM\system\currentcontrolset\control\session

manager[safeprocesssearchmode]

Queries value: HKLM\system\currentcontrolset\control\nls\codepage[932]
Queries value: HKLM\system\currentcontrolset\control\nls\codepage[949]
Queries value: HKLM\system\currentcontrolset\control\nls\codepage[950]
Queries value: HKLM\system\currentcontrolset\control\nls\codepage[936]
Queries value: HKCU\software\microsoft\internet explorer\main[start page]
Queries value: HKLM\system\currentcontrolset\control\wow[wowcmdline]

Queries value: HKLM\software\microsoft\windows nt\currentversion\compatibility32[ntvdm]

Queries value: HKLM\software\microsoft\windows nt\currentversion\ime

compatibility[ntvdm]

Queries value: HKLM\hardware\description\system[identifier]
Queries value: HKLM\hardware\description\system[configuration data]
Queries value: HKLM\system\currentcontrolset\control\wow[romfontpointers]
Queries value: HKLM\system\currentcontrolset\control\virtualdevicedrivers[vdd]
Queries value: HKLM\software\microsoft\windows\currentversion\setup[bootdir]
Queries value: HKLM\software\microsoft\windows nt\currentversion\terminal

server[rootdrive]

Queries value: HKLM\software\microsoft\windows

nt\currentversion\winlogon[userenvdebuglevel]

Queries value: HKLM\software\microsoft\windows

nt\currentversion\winlogon[chkaccdebuglevel]

folders[local settings]

Queries value: HKLM\software\microsoft\windows

nt\currentversion\winlogon[rsopdebuglevel]

Queries value: HKLM\software\microsoft\windows nt\currentversion\winlogon[rsoplogging]
Queries value: HKLM\system\currentcontrolset\control\session manager\environment[temp]

Queries value:

HKCU\software\microsoft\windows\currentversion\explorer[nofilefolderconnection]

Queries value: HKCR\directory\shellex\copyhookhandlers\cdf[]

Queries value: HKCR\clsid\{67ea19a0-ccef-11d0-8024-00c04fd75d13}\inprocserver32[]

Queries value: HKCR\clsid\{67ea19a0-ccef-11d0-8024-

00c04fd75d13}\inprocserver32[loadwithoutcom]

Queries value: HKLM\software\microsoft\windows\currentversion\shell

extensions\blocked[{67ea19a0-ccef-11d0-8024-00c04fd75d13}]

Queries value: HKCU\software\microsoft\windows\currentversion\shell

extensions\blocked[{67ea19a0-ccef-11d0-8024-00c04fd75d13}]

Queries value:

 $\label{lem:hkcu} \begin{tabular}{ll} HKCU \software \verb|\microsoft| windows \verb|\currentversion| policies \verb|\explorer| [enforces hellex tension security] \end{tabular}$ 

 $\label{thm:constraint} Queries \ value: \\ HKLM\ software\ microsoft\ windows\ current version\ shell$ 

extensions\cached[{67ea19a0-ccef-11d0-8024-00c04fd75d13} {00000000-0000-0000-c000-000000000046}}

0x401]

Queries value: HKCU\software\microsoft\windows\currentversion\shell

 $extensions \\ cached \cite[67ea19a0-ccef-11d0-8024-00c04fd75d13] \\ \cite[67ea19a0-c000-0000000000000000] \\ \cite[67ea19a0-ccef-11d0-8024-00c04fd75d13] \\ \cite[$ 

0x401]

Queries value: HKCR\directory\shellex\copyhookhandlers\filesystem[]

Queries value: HKCR\clsid\{217fc9c0-3aea-1069-a2db-08002b30309d}\inprocserver32[]

 $\label{thm:linear} Queries \ value: \\ HKCR \ directory \ shellex \ copyhook handlers \ my documents []$ 

Queries value: HKCR\clsid\{ecf03a33-103d-11d2-854d-006008059367}\inprocserver32[]

Queries value: HKCR\clsid\{ecf03a33-103d-11d2-854d-

006008059367}\inprocserver32[loadwithoutcom]

Queries value: HKLM\software\microsoft\windows\currentversion\shell

 $extensions \verb|\blocked| \{ecf03a33-103d-11d2-854d-006008059367\}|$ 

Queries value: HKCU\software\microsoft\windows\currentversion\shell

extensions\blocked[{ecf03a33-103d-11d2-854d-006008059367}]

Queries value: HKLM\software\microsoft\windows\currentversion\shell

0x401]

Queries value: HKCU\software\microsoft\windows\currentversion\shell

extensions\cached[{ecf03a33-103d-11d2-854d-006008059367} {00000000-0000-0000-0000-000000000046}

0x401]

Queries value: HKCR\directory\shellex\copyhookhandlers\sharing[]

Queries value: HKCR\clsid\{40dd6e20-7c17-11ce-a804-00aa003ca9f6}\inprocserver32[]

Queries value: HKCR\clsid\{40dd6e20-7c17-11ce-a804-

00aa003ca9f6}\inprocserver32[loadwithoutcom]

Queries value: HKLM\software\microsoft\windows\currentversion\shell

```
extensions\blocked[{40dd6e20-7c17-11ce-a804-00aa003ca9f6}]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\shell
extensions\blocked[{40dd6e20-7c17-11ce-a804-00aa003ca9f6}]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\shell
extensions\cached[{40dd6e20-7c17-11ce-a804-00aa003ca9f6} {00000000-0000-0000-c000-000000000046}
0x401]
                         HKCU\software\microsoft\windows\currentversion\shell
 Oueries value:
extensions\cached[{40dd6e20-7c17-11ce-a804-00aa003ca9f6} {00000000-0000-0000-c000-000000000046}
0x4011
 Queries value:
                         HKLM\software\microsoft\windows nt\currentversion\profilelist\s-1-5-21-
1757981266-507921405-1957994488-1003[profileimagepath]
 Oueries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[fonts]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[startup]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[programs]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[start menu]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[recent]
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
 Queries value:
folders[sendto]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[favorites]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[nethood]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[printhood]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[templates]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common startup]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common programs]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common start menu]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common favorites]
 Oueries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common appdata]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[common templates]
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
 Oueries value:
folders[appdata]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[local appdata]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[altstartup]
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
 Queries value:
folders[common altstartup]
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
 Queries value:
folders[history]
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
 Queries value:
folders[my pictures]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion[programfilesdir (x86)]
 Oueries value:
                         HKLM\software\microsoft\windows\currentversion[commonfilesdir (x86)]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion[programfilesdir]
                         HKLM\software\microsoft\windows\currentversion[commonfilesdir]
 Queries value:
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[administrative tools]
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
 Oueries value:
folders[common administrative tools]
 Queries value:
                         HKLM\software\microsoft\windows
nt\currentversion\profilelist[profilesdirectory]
 Oueries value:
                         HKLM\software\microsoft\windows
nt\currentversion\profilelist[allusersprofile]
 Queries value:
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
folders[my music]
                         HKCU\software\microsoft\windows\currentversion\explorer\user shell
 Queries value:
folders[my video]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
folders[commonpictures]
 Queries value:
                         HKLM\software\microsoft\windows\currentversion\explorer\user shell
```

folders[commonmusic]

Queries value: HKLM\software\microsoft\windows\currentversion\explorer\user shell

folders[commonvideo]

Queries value: HKLM\software\microsoft\windows\currentversion\explorer\user shell

folders[oem links]

Queries value: HKCU\software\microsoft\windows\currentversion\explorer\user shell

folders[cd burning]

Queries value: HKLM\software\microsoft\windows\currentversion\app paths\setup.exe[]

Sets/Creates value:

 $HKCU \ software \ microsoft \ windows \ shell no roam \ muicache \ [c:\docume-1\admin\locals-1\temp\rarsfx0\startup.exe]$ 

Sets/Creates value: HKCU\software\vb and vba program settings\atstart\preferences[homepage]

Value changes: HKLM\software\microsoft\cryptography\rng[seed]

Value changes: HKCU\software\microsoft\windows\currentversion\explorer\shell

folders[personal]
 Value changes:

HKCU\software\microsoft\windows\currentversion\explorer\mountpoints2\{f90255c2-6bc4-11e3-9fc7-

806d6172696f}[baseclass]

Value changes: HKLM\software\microsoft\windows\currentversion\explorer\shell

folders[common documents]

Value changes: HKCU\software\microsoft\windows\currentversion\explorer\shell

folders[desktop]

Value changes: HKLM\software\microsoft\windows\currentversion\explorer\shell

folders[common desktop]

Value changes: HKCU\software\microsoft\windows\currentversion\internet

settings\zonemap[proxybypass]

Value changes: HKCU\software\microsoft\windows\currentversion\internet

settings\zonemap[intranetname]

Value changes: HKCU\software\microsoft\windows\currentversion\internet

settings\zonemap[uncasintranet]

Value changes: HKCU\software\microsoft\windows\currentversion\internet

settings\zonemap[autodetect]

Value changes: HKCU\software\microsoft\windows\currentversion\explorer\shell

folders[cache]

Value changes: HKCU\software\microsoft\windows\currentversion\explorer\shell

folders[cookies]