Errata for *Practical Malware Analysis* (updated to 16th printing)

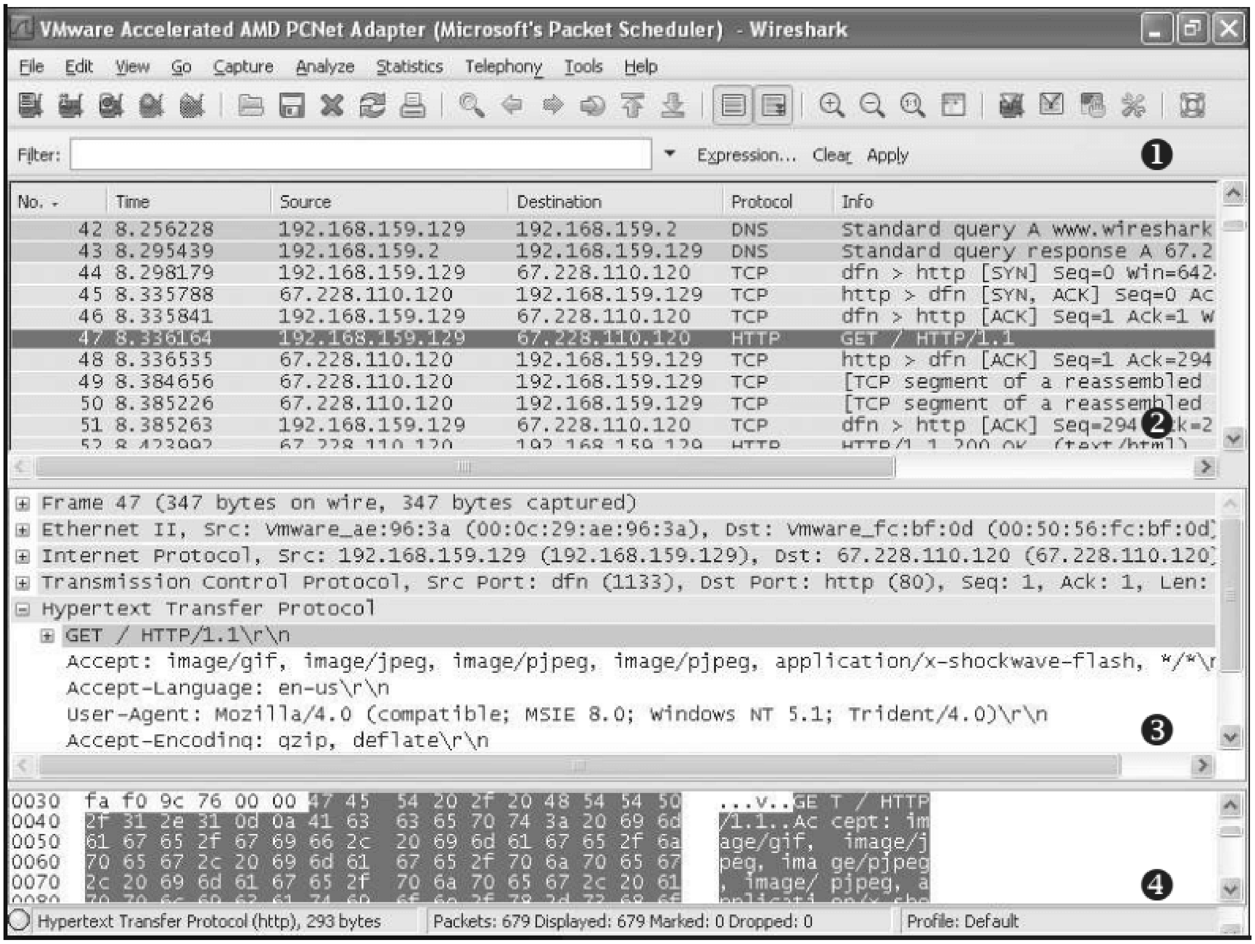
Page 10: The two MD5 sums that read:

`373e7a863a1a345c60edb9e20ec3231`

should now read:

`373e7a863a1a345c60edb9e20ec32311`

Page 54: Figure 3-10 has been updated as follows:


VMware Accelerated AMD PCNet Adapter (Microsoft's Packet Scheduler) - Wireshark
File Edit View Go Capture Analyze Statistics Telephony Tools Help
Filter:
Expression... Clear Apply
❶
❷
❸
❹

```
No. -  Time        Source            Destination       Protocol  Info
   42  8.256228    192.168.159.129   192.168.159.2     DNS       Standard query A www.wireshark
   43  8.295439    192.168.159.2     192.168.159.129   DNS       Standard query response A 67.2
   44  8.298179    192.168.159.129   67.228.110.120    TCP       dfn > http [SYN] Seq=0 Win=642
   45  8.335788    67.228.110.120    192.168.159.129   TCP       http > dfn [SYN, ACK] Seq=0 Ac
   46  8.335841    192.168.159.129   67.228.110.120    TCP       dfn > http [ACK] Seq=1 Ack=1 W
   47  8.336164    192.168.159.129   67.228.110.120    HTTP      GET / HTTP/1.1
   48  8.336535    67.228.110.120    192.168.159.129   TCP       http > dfn [ACK] Seq=1 Ack=294
   49  8.384656    67.228.110.120    192.168.159.129   TCP       [TCP segment of a reassembled
   50  8.385226    67.228.110.120    192.168.159.129   TCP       [TCP segment of a reassembled
   51  8.385263    192.168.159.129   67.228.110.120    TCP       dfn > http [ACK] Seq=294 k=2
   52  8.423992    67.228.110.120    192.168.159.129   HTTP      HTTP/1.1 200 OK  (text/html)
```

```
⊞ Frame 47 (347 bytes on wire, 347 bytes captured)
⊞ Ethernet II, Src: Vmware_ae:96:3a (00:0c:29:ae:96:3a), Dst: Vmware_fc:bf:0d (00:50:56:fc:bf:0d)
⊞ Internet Protocol, Src: 192.168.159.129 (192.168.159.129), Dst: 67.228.110.120 (67.228.110.120)
⊞ Transmission Control Protocol, Src Port: dfn (1133), Dst Port: http (80), Seq: 1, Ack: 1, Len:
⊟ Hypertext Transfer Protocol
  ⊞ GET / HTTP/1.1\r\n
    Accept: image/gif, image/jpeg, image/pjpeg, image/pjpeg, application/x-shockwave-flash, */*\r
    Accept-Language: en-us\r\n
    User-Agent: Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 5.1; Trident/4.0)\r\n
    Accept-Encoding: gzip, deflate\r\n
```

```
0030  fa f0 9c 76 00 00 47 45  54 20 2f 20 48 54 54 50   ...v..GE T / HTTP
0040  2f 31 2e 31 0d 0a 41 63  63 65 70 74 3a 20 69 6d   /1.1..Ac cept: im
0050  61 67 65 2f 67 69 66 2c  20 69 6d 61 67 65 2f 6a   age/gif,  image/j
0060  70 65 67 2c 20 69 6d 61  67 65 2f 70 6a 70 65 67   peg, ima ge/pjpeg
0070  2c 20 69 6d 61 67 65 2f  70 6a 70 65 67 2c 20 61   , image/ pjpeg, a
```

Hypertext Transfer Protocol (http), 293 bytes | Packets: 679 Displayed: 679 Marked: 0 Dropped: 0 | Profile: Default

Page 66: In Figure 4-1, "`move`" should now read "`mov`"

Page 74: The sentence which reads:

. . . instruction such as `lea ebx, [eax*5+5]`, where `eax` is a number, rather than a memory address. This instruction is the functional equivalent of `ebx = (eax+1)*5`, but the former is shorter or more efficient for the compiler to use instead of a total of four instructions (for example `inc eax; mov ecx, 5; mul ecx; mov ebx, eax`).

should now read:

. . . instruction such as `lea ebx, [eax*4+4]`, where `eax` is a number, rather than a memory address. This instruction is the functional equivalent of `ebx = (eax+1)*4`, but the former is shorter or more efficient for the compiler to use instead of a total of four instructions (for example `inc eax; mov ecx, 4; mul ecx; mov ebx, eax`).

Page 76: The sentence that begins:

The instruction `nop` is actually a pseudonym for `xhcg eax, eax ...`

should now read:

The instruction `nop` is actually a pseudonym for `xchg eax, eax ...`

Page 79: In Figure 4-8, the stack layout which reads:

Local Variable *N*
. . .
Local Variable 1
Local Variable 2
Old EBP
Return Address
Argument 1
Argument 2
. . .
Argument *N*

should now read:

Local Variable *N*
. . .
Local Variable 2
Local Variable 1
Old EBP

Return Address

Argument 1

Argument 2

. . .

Argument *N*

Page 82: In the last paragraph, the sentence which reads:

This works in the same way as `cmpsb`, but it compares the byte located at address ESI to AL, rather than to EDI.

should now read:

This works in the same way as `cmpsb`, but it compares the byte located at address EDI to AL, rather than to ESI.

Page 84: "Table 4-12" should now read "Listing 4-2"

Pages 110 and 111: In Listing 6-1, "`Total`" should now read "`total`"

Pages 111 and 112: In Listings 6-4 and 6-5, the first two lines which read:

```
00401006 mov dword ptr [ebp-4], 0
0040100D mov dword ptr [ebp-8], 1
```

should now read:

```
00401006 mov dword ptr [ebp-4], 1
0040100D mov dword ptr [ebp-8], 2
```

Page 148: The sentence which reads:

The `lpStartupInfo` structure for the process stores the standard output (1), standard input (2), and standard error (3) that will be used for the new process.

should now read:

The `lpStartupInfo` structure for the process stores the standard output (2), standard input (3), and standard error (1) that will be used for the new process.

Page 178: The sentence that ends with:

. . . and `0x411001` if the language is Chinese.

should now read:

. . . and `0x41100A` if the language is Chinese.

Page 237: For technical accuracy, Listing 11-2 should include additional ". . ." breaks, so that it reads:

```
1000123F push offset LibFileName ; "samsrv.dll"
10001244 call esi ; LoadLibraryA
...
10001248 push offset aAdvapi32_dll_0 ; "advapi32.dll"
...
10001251 call esi ; LoadLibraryA
...
1000125B push offset ProcName ; "SamIConnect"
10001260 push ebx ; hModule
...
10001265 call esi ; GetProcAddress
...
10001281 push offset aSamrqueryinfor ; "SamrQueryInformationUser"
10001286 push ebx ; hModule
...
1000128C call esi ; GetProcAddress
...
100012C2 push offset aSamigetprivate ; "SamIGetPrivateData"
100012C7 push ebx ; hModule
...
100012CD call esi ; GetProcAddress
100012CF push offset aSystemfunction ; "SystemFunction025"
100012D4 push edi ; hModule
...
100012DA call esi ; GetProcAddress
100012DC push offset aSystemfuncti_0 ; "SystemFunction027"
100012E1 push edi ; hModule
...
100012E7 call esi ; GetProcAddress
```

Page 258: In the first line of Listing 12-3, `CREATE_SUSPEND` should now read `CREATE_SUSPENDED`

Page 263: In the penultimate sentence of the first paragraph, `Sleep` should now read `SleepEx`

Page 290: In Listing 13-10, `cbuf = f.read()` should now read `cbuf = cfile.read()`

Page 338: "JZ -7" in Figure 15-5 should now read "JZ -6" and the opcodes underneath that text which read "74 F9" should now read "74 FA"

and the 3rd line of the listing which reads:

```
74 F9 jz short near ptr sub_4011C0+1
```

should now read:

```
74 FA jz short near ptr sub_4011C0+2
```

Page 339: The 7th line of the first listing which reads:

```
F9 db 0F9h
```

should now read:

```
FA db 0FAh
```

Page 363: Under "Inserting INT 2D," "Listing 16-10" should instead read "Listing 16-9"

Page 376: The text which reads "0x5668" should now read "0x5658" (once in the first paragraph and once in the third paragraph).

Page 440: In Question 3, the sentence that begins with:

"At 0x4036F0, there is a function call that takes the string . . ."

should now read:

"The function 0x4036F0 is called multiple times and each time it takes the string . . ."

Page 447: Both instances of "*\WOW64*" should now read "*\SysWOW64*"

Page 448: "*C:\Windows\WOW64*" should now read "*C:\Windows\SysWOW64*"

Page 471: The link to download PEview has been updated to: *http://wjradburn.com/software/*

Page 499: In the first paragraph:

View ▸ Graphs ▸ Xrefs From

should now read:

View ▸ Graphs ▸ User Xrefs Chart

Page 514: The last sentence of the page which reads:

If the call fails, the program exits.

should now read:

If the call succeeds, the program exits.

Page 523: The sentence which ends with:

. . . function to sleep for 60 seconds.

should now read:

. . . function to sleep for about 394 seconds.

Page 566: The sentence that begins with:

If you perform a full analysis of 0x4025120 . . .

should now read:

If you perform a full analysis of 0x402510 . . .

Page 649: At the beginning of the second paragraph, the sentence that begins with:

The two functions (`sub_4012F2` and `sub_401369`) . . .

should now read:

The two functions (`sub_40130F` and `sub_401386`) . . .

Page 651: In Listing 15-12L (as well as in the disassembly of the corresponding lab), we added `add edx, 8` between the lines `00401202` and `00401208`.

Page 675: In the first sentence of the second full paragraph on the page, “0x5668” should now read “0x5658”

Page 680: At the end of the second paragraph, “on page 670” should now read “on page 678”