

# File Deleted?



SCP  
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(Y.M.Jeon)

## Title

*File Deleted*

## Description

### Korean

피시방에서 아동 청소년 보호법에 위배되는 파일을 소지한 기록을 발견했다.  
아래의 형식에 맞춰 증거를 수집해라.

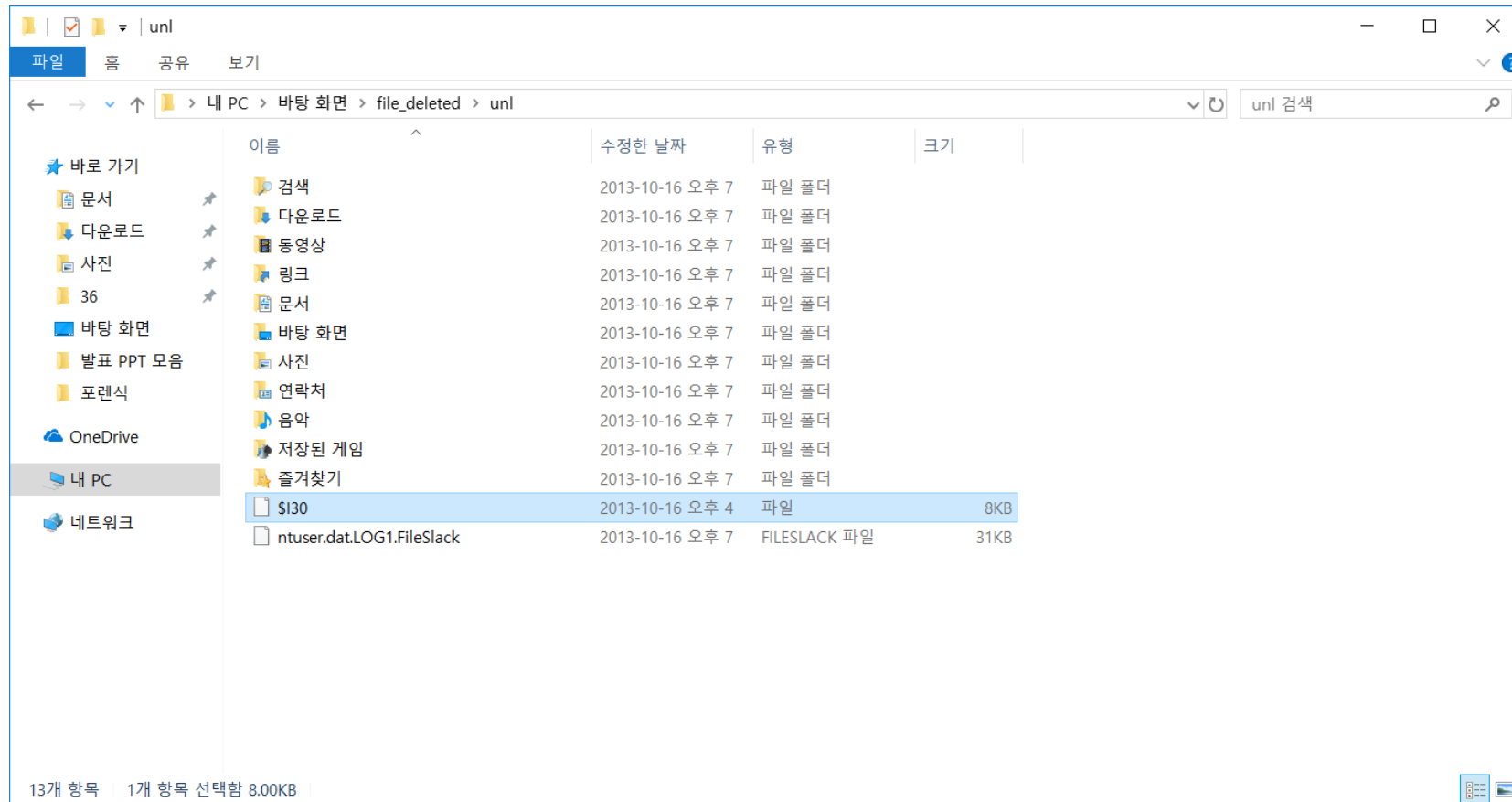
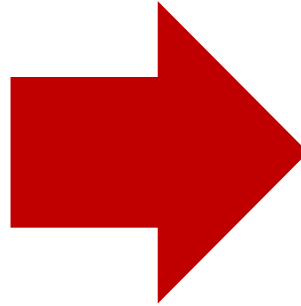
시간은 GMT+9 입니다. lowercase(md5(원본 경로\_만들어진 시간\_마지막 실행 된 시간\_쓰인 시간\_블룸 시리얼))  
ex)lowercase(md5(C:\₩XCZ₩key.txt\_20121021160000\_20131022000000\_20131022000000\_AAAA-BBBB))

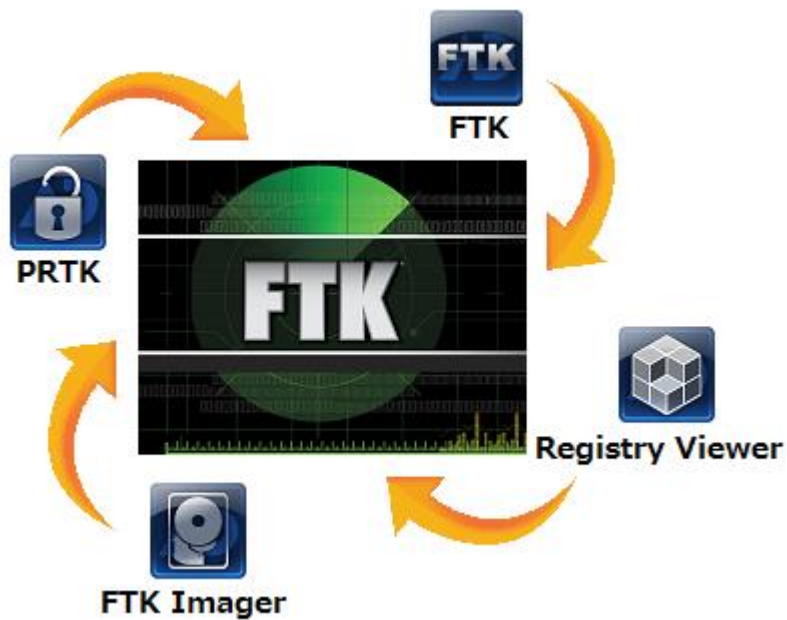
### English

[Prob File](#)

# XCZ.KR Prob 36 (Digital Forensic)

# Prob file





AccessData FTK Imager 3.4.3.3

File View Mode Help

Evidence Tree

- Downloads
- Favorites
  - Links
  - Links for 대한민국
  - Microsoft Websites
  - Microsoft 웹 사이트
  - MSN 웹 사이트
  - Windows Live
- Links
- Local Settings
- Music
- My Documents
- NetHood
- Pictures
- PrintHood
- Recent**
- Saved Games
- Searches
- SendTo
- Templates
- Videos
- 시작 메뉴

File List

Name	Size	Type	Date Modif...
s3c3r7.avi.Ink	1	Regular File	2013-10-21...

Hex Value Interpreter

Type	Size	Value
signed integer	1-8	
unsigned inte...	1-8	
FILETIME (U...	8	
FILETIME (lo...	8	
DOS date	2	
DOS time	2	
time_t (UTC)	4	
time_t (local)	4	

Hex dump view:

```

000 4C 00 00 00 01 14 02 00-00 00 00 00 C0 00 00 00 L.....A...
010 00 00 00 46 9B 00 08 00-20 00 00 00 53 71 1C 79 ...F.....-Sq-y
020 2B CA CE 01 53 71 1C 79-7B CA CE 01 A9 13 71 C1 +ËÏ-Sq-y(ËÏ-ø qÃ
030 5B CA CE 01 D0 1B 4E 02-00 00 00 00 01 00 00 00 [ËÏ-ø-N.....
040 00 00 00 00 00 00 00 00-00 00 00 00 D7 00 14 00 .....*.....
050 1F 50 E0 4F D0 20 EA 3A-69 10 A2 D8 08 00 2B 30 ·PàOB ê:i-ø0-+0
060 30 9D 19 00 2F 48 3A 5C-00 00 00 00 00 00 00 00 0.../H:\.....
070 00 00 00 00 00 00 00 00-00 00 00 00 4C 00 31 00 00 .....L-l...
080 00 00 00 50 43 A3 54 10-00 73 74 75 64 79 00 38 ...PC&T--study-8
090 00 08 00 04 00 EF BE 50-43 72 54 50 43 A3 54 2A .....i%PCrTPC&T*
0a0 00 00 00 B9 72 00 00 00-00 0D 00 00 00 00 00 00 .....*r.....
0b0 00 00 00 00 00 00 00 00-00 73 00 74 00 75 00 64 .....s-t-u-d
0c0 00 79 00 00 00 14 00 5C-00 32 00 D0 1B 4E 02 50 ..y.....\-2-ø-N-P
0d0 43 B8 54 20 00 73 33 63-33 72 37 2E 61 76 69 00 C,T -s3c3r7.avi-
0e0 00 42 00 08 00 04 00 EF-BE 50 43 78 54 50 43 78 ·B.....i%PCxTPCx
0f0 54 2A 00 00 00 E1 9B 00-00 00 00 02 00 00 00 00 T*...á.....
100 00 00 00 00 00 00 00 00-00 00 00 00 73 00 33 00 63 .....s-3-c
110 00 33 00 72 00 37 00 2E-00 61 00 76 00 69 00 00 ·3-r-7-.-a-v-i-
120 00 1A 00 00 00 42 00 00-00 1C 00 00 00 01 00 00 .....B.....
130 00 1C 00 00 00 2D 00 00-00 00 00 00 00 41 00 00 .....A...
140 00 11 00 00 00 02 00 00-00 A9 02 A8 D0 10 00 00 .....ø-ø...
150 00 00 48 3A 5C 73 74 75-64 79 5C 73 33 63 33 72 ·-H:\study\s3c3r
160 37 2E 61 76 69 00 00 0C-00 2E 00 5C 00 73 00 33 7.avi.....\·s-3
170 00 63 00 33 00 72 00 37-00 2E 00 61 00 76 00 69 ·-c-3-r-7-.-a-v-i
180 00 08 00 48 00 3A 00 5C-00 73 00 74 00 75 00 64 ...H:\·s-t-u-d
190 00 79 00 60 00 00 00 03-00 00 A0 58 00 00 00 00 ·v-.....X....
  
```

# FTK Imager

ShellLinkHeader

LinkTargetIDList

LinkInfo

StringData

ExtraData



010 Editor

010 Editor - C:\Users\User\Desktop\XCZ.KRW36Wfile\_deleted\Ws3c3r7.avi.lnk\*

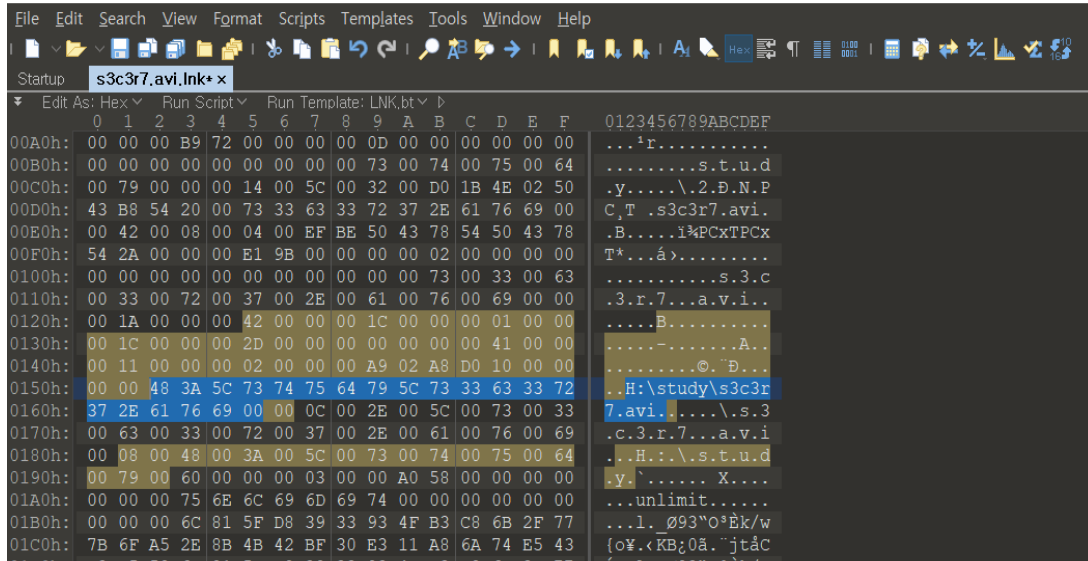
```
File Edit Search View Format Scripts Templates Tools Window Help
Startup s3c3r7.avi.lnk* x
Edit As: Hex Run Script Run Template: LNK.bt
0 1 2 3 4 5 6 7 8 9 A B C D E F 0123456789ABCDEF
0000h: 4C 00 00 00 01 14 02 00 00 00 00 00 C0 00 00 00 L.....A...
0010h: 00 00 00 46 9B 00 08 00 20 00 00 00 00 B9 D5 73 ...F>...¹Öx
0020h: 2B CA CE 01 53 71 1C 79 7B CA CE 01 A9 13 71 C1 +ÊÏ.Sq.y{ÊÏ.©.qA
0030h: 5B CA CE 01 D0 1B 4E 02 00 00 00 00 01 00 00 00 [ÊÏ.Ð.N.....
0040h: 00 00 00 00 00 00 00 00 00 00 00 00 D7 00 14 00 .....x...
0050h: 1F 50 E0 4F D0 20 EA 3A 69 10 A2 D8 08 00 2B 30 .PàOÐ ê:i.çø..+0
0060h: 30 9D 19 00 2F 48 3A 5C 00 00 00 00 00 00 00 00 0.../H:\.....
0070h: 00 00 00 00 00 00 00 00 00 00 00 4C 00 31 00 00 .....L.l..
0080h: 00 00 00 50 43 A3 54 10 00 73 74 75 64 79 00 38 ...PCÊT..study.8
0090h: 00 08 00 04 00 EF BE 50 43 72 54 50 43 A3 54 2A .....i¾PCrTPCÊT*
00A0h: 00 00 00 B9 72 00 00 00 00 0D 00 00 00 00 00 00 .....¹r.....
00B0h: 00 00 00 00 00 00 00 00 00 73 00 74 00 75 00 64 .....s.t.u.d
00C0h: 00 79 00 00 00 14 00 5C 00 32 00 D0 1B 4E 02 50 .y.....\..Ð.N.P
00D0h: 43 B8 54 20 00 73 33 63 33 72 37 2E 61 76 69 00 C,T .s3c3r7.avi.
00E0h: 00 42 00 08 00 04 00 EF BE 50 43 78 54 50 43 78 .B.....i¾PCxTPCx
00F0h: 54 2A 00 00 00 E1 9B 00 00 00 00 02 00 00 00 00 T*...á>.....
0100h: 00 00 00 00 00 00 00 00 00 00 00 73 00 33 00 63 .....s.3.C
0110h: 00 33 00 72 00 37 00 2E 00 61 00 76 00 69 00 00 .3.r.7...a.v.i..
0120h: 00 1A 00 00 00 42 00 00 00 1C 00 00 00 01 00 00 .....B.....
0130h: 00 1C 00 00 00 2D 00 00 00 00 00 00 00 41 00 00 .....-.....A...
0140h: 00 11 00 00 00 02 00 00 00 A9 02 A8 D0 10 00 00 .....A...
Template Results - LNK.bt
```

Name	Value	Start	Size	Color	Comment
struct ShellLinkHeader sS...		0h	4Ch	Fg: Bg:	
uint32 HeaderSize	76	0h	4h	Fg: Bg:	
GUID LinkCLSID[16]	{00021401-00...	4h	10h	Fg: Bg:	
GUID LinkCLSID[0]	1	4h	1h	Fg: Bg:	
GUID LinkCLSID[1]	20	5h	1h	Fg: Bg:	
GUID LinkCLSID[2]	2	6h	1h	Fg: Bg:	
GUID LinkCLSID[3]	0	7h	1h	Fg: Bg:	
GUID LinkCLSID[4]	0	8h	1h	Fg: Bg:	
GUID LinkCLSID[5]	0	9h	1h	Fg: Bg:	
GUID LinkCLSID[6]	0	Ah	1h	Fg: Bg:	
GUID LinkCLSID[7]	0	Bh	1h	Fg: Bg:	
GUID LinkCLSID[8]	192	Ch	1h	Fg: Bg:	
GUID LinkCLSID[9]	0	Dh	1h	Fg: Bg:	
GUID LinkCLSID[10]	0	Eh	1h	Fg: Bg:	
GUID LinkCLSID[11]	0	Fh	1h	Fg: Bg:	
GUID LinkCLSID[12]	0	10h	1h	Fg: Bg:	
GUID LinkCLSID[13]	0	11h	1h	Fg: Bg:	
GUID LinkCLSID[14]	0	12h	1h	Fg: Bg:	
GUID LinkCLSID[15]	70	13h	1h	Fg: Bg:	
struct LinkFlags sLinkFI...		14h	4h	Fg: Bg:	
uint32 HasLinkTargetI...	1	14h	4h	Fg: Bg:	
uint32 HasLinkInfo : 1	1	14h	4h	Fg: Bg:	
uint32 HasName : 1	0	14h	4h	Fg: Bg:	
uint32 HasRelativePa...	1	14h	4h	Fg: Bg:	

Selected: 4 bytes (Range: 329 [149h] to 332 [14Ch])

# 원본 경로???

010 Editor - C:\Users\Wuser\Desktop\file\_deleted\ws3c3r7.avi.lnk\*



string Data[1]	151h	1h	Fg:	Bg:
string LocalBasePath[20] H:\study\ws3c3r7.avi	152h	14h	Fg:	Bg:
string LocalBasePath ... 72 'H'	152h	1h	Fg:	Bg:
string LocalBasePath ... 58 ':'	153h	1h	Fg:	Bg:
string LocalBasePath ... 92 'W'	154h	1h	Fg:	Bg:
string LocalBasePath ... 115 's'	155h	1h	Fg:	Bg:
string LocalBasePath ... 116 't'	156h	1h	Fg:	Bg:
string LocalBasePath ... 117 'u'	157h	1h	Fg:	Bg:
string LocalBasePath ... 100 'd'	158h	1h	Fg:	Bg:
string LocalBasePath ... 121 'y'	159h	1h	Fg:	Bg:
string LocalBasePath ... 92 'W'	15Ah	1h	Fg:	Bg:
string LocalBasePath ... 115 's'	15Bh	1h	Fg:	Bg:
string LocalBasePath ... 51 '3'	15Ch	1h	Fg:	Bg:
string LocalBasePath ... 99 'c'	15Dh	1h	Fg:	Bg:
string LocalBasePath ... 51 '3'	15Eh	1h	Fg:	Bg:
string LocalBasePath ... 114 'r'	15Fh	1h	Fg:	Bg:
string LocalBasePath ... 55 '7'	160h	1h	Fg:	Bg:
string LocalBasePath ... 46 ','	161h	1h	Fg:	Bg:
string LocalBasePath ... 97 'a'	162h	1h	Fg:	Bg:
string LocalBasePath ... 118 'v'	163h	1h	Fg:	Bg:
string LocalBasePath ... 105 'i'	164h	1h	Fg:	Bg:
string LocalBasePath ... 0	165h	1h	Fg:	Bg:
string CommonPathSuffi ...	166h	1h	Fg:	Bg:

string LocalBasePath[20] H:\study\ws3c3r7.avi	152h	14h	Fg:	Bg:
string LocalBasePath ... 72 'H'	152h	1h	Fg:	Bg:
string LocalBasePath ... 58 ':'	153h	1h	Fg:	Bg:
string LocalBasePath ... 92 'W'	154h	1h	Fg:	Bg:
string LocalBasePath ... 115 's'	155h	1h	Fg:	Bg:
string LocalBasePath ... 116 't'	156h	1h	Fg:	Bg:
string LocalBasePath ... 117 'u'	157h	1h	Fg:	Bg:
string LocalBasePath ... 100 'd'	158h	1h	Fg:	Bg:
string LocalBasePath ... 121 'y'	159h	1h	Fg:	Bg:
string LocalBasePath ... 92 'W'	15Ah	1h	Fg:	Bg:
string LocalBasePath ... 115 's'	15Bh	1h	Fg:	Bg:
string LocalBasePath ... 51 '3'	15Ch	1h	Fg:	Bg:
string LocalBasePath ... 99 'c'	15Dh	1h	Fg:	Bg:
string LocalBasePath ... 51 '3'	15Eh	1h	Fg:	Bg:
string LocalBasePath ... 114 'r'	15Fh	1h	Fg:	Bg:
string LocalBasePath ... 55 '7'	160h	1h	Fg:	Bg:
string LocalBasePath ... 46 ','	161h	1h	Fg:	Bg:
string LocalBasePath ... 97 'a'	162h	1h	Fg:	Bg:
string LocalBasePath ... 118 'v'	163h	1h	Fg:	Bg:
string LocalBasePath ... 105 'i'	164h	1h	Fg:	Bg:
string LocalBasePath ... 0	165h	1h	Fg:	Bg:

H:\study\ws3c3r7.avi



# 만들어진 시간? 마지막 실행 된 시간? 쓰인 시간?

010 Editor - C:\Users\User\Desktop\file\_deleted\ws3c3r7.avi.lnk\*

File Edit Search View Format Scripts Templates Tools Window Help

Startup s3c3r7.avi.lnk\*

Edit As: Hex Run Script Run Template: LNK.bt

0 1 2 3 4 5 6 7 8 9 A B C D E F 0123456789ABCDEF

0010h: 00 00 00 46 98 00 08 00 20 00 00 00 00 FA A5 58 ...F>...UWX  
0020h: 2B CA CE 01 53 51 1C 59 7B CA CE 01 A9 13 51 C1 +E1.SQ.Y(E1.C.QA  
0030h: 5B CA CE 01 00 1B 4E 02 00 00 00 00 01 00 00 00 [E1.D.N.....  
0040h: 00 00 00 00 00 00 00 00 00 00 00 00 D7 00 14 00 .....x...  
0050h: 1F 50 E0 4F D0 20 EA 3A 69 10 A2 D8 08 00 2B 30 .PàOð ê:i.ø..+0  
0060h: 30 9D 19 00 2F 48 3A 5C 00 00 00 00 00 00 00 00 0.../H:\.....  
0070h: 00 00 00 00 00 00 00 00 00 00 00 00 4C 00 31 00 0.....L.l..  
0080h: 00 00 00 50 43 A3 54 10 00 73 74 75 64 79 00 38 ...PCET..study.8  
0090h: 00 08 00 04 00 EF BE 50 43 72 54 50 43 A3 54 2A .....i%PCrTPCET\*  
00A0h: 00 00 00 B9 72 00 00 00 00 0D 00 00 00 00 00 00 .....r.....  
00B0h: 00 00 00 00 00 00 00 00 00 73 00 74 00 75 00 64 .....s.t.u.d  
00C0h: 00 79 00 00 00 14 00 5C 00 32 00 D0 1B 4E 02 50 .y.....\2.D.N.P  
00D0h: 43 B8 54 20 00 73 33 63 33 72 37 2E 61 76 69 00 C.T..s3c3r7.avi.  
00E0h: 00 42 00 08 00 04 00 EF BE 50 43 78 54 50 43 78 .B.....i%PCxTPCx  
00F0h: 54 2A 00 00 00 E1 9B 00 00 00 00 02 00 00 00 00 T\*...á>.....  
0100h: 00 00 00 00 00 00 00 00 00 00 00 73 00 33 00 63 .....s.3.c  
0110h: 00 33 00 72 00 37 00 2E 00 61 00 76 00 69 00 00 .3.r.7...a.v.i..  
0120h: 00 1A 00 00 00 42 00 00 00 1C 00 00 00 01 00 00 .....B.....  
0130h: 00 1C 00 00 00 2D 00 00 00 A9 00 00 00 41 00 00 .....A..  
0140h: 00 11 00 00 00 02 00 00 00 A9 02 A8 D0 10 00 00 .....C..D..  
0150h: 00 00 48 25 5C 73 74 75 64 79 5C 73 23 63 23 72 W:\study\se3c3r7

Template Results - LNK.bt

Name	Value	Start	Size	Color	Comment
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	1	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
uint32 FILE_ATTRIBU...	0	18h	4h	Fg: Bg:	
FILETIME CreationTime	10/16/2013 04:52:10	1Ch	8h	Fg: Bg:	
FILETIME AccessTime	10/16/2013 14:24:50	24h	8h	Fg: Bg:	
FILETIME WriteTime	10/16/2013 10:37:47	2Ch	8h	Fg: Bg:	
uint32 IconIndex	0	38h	4h	Fg: Bg:	
enum ShowCommand	SW_SHOWNO...	3Ch	4h	Fg: Bg:	
uint16 HotKey	UNKNOWN	40h	2h	Fg: Bg:	
uint16 Reserved[0]	0	42h	2h	Fg: Bg:	
uint32 Reserved[1]	0	44h	4h	Fg: Bg:	
uint32 Reserved[2]	0	48h	4h	Fg: Bg:	

Selected: 4 bytes (Range: 68 [44h] to 71 [47h])

FILETIME CreationTime	10/16/2013 04:52:10	1Ch	8h	Fg: Bg:
FILETIME AccessTime	10/16/2013 14:24:50	24h	8h	Fg: Bg:
FILETIME WriteTime	10/16/2013 10:37:47	2Ch	8h	Fg: Bg:

만들어진 시간 (FILETIME Creation Time)

= 10/16/2013 04:52:10

마지막 실행 된 시간 (FILETIME Access Time)

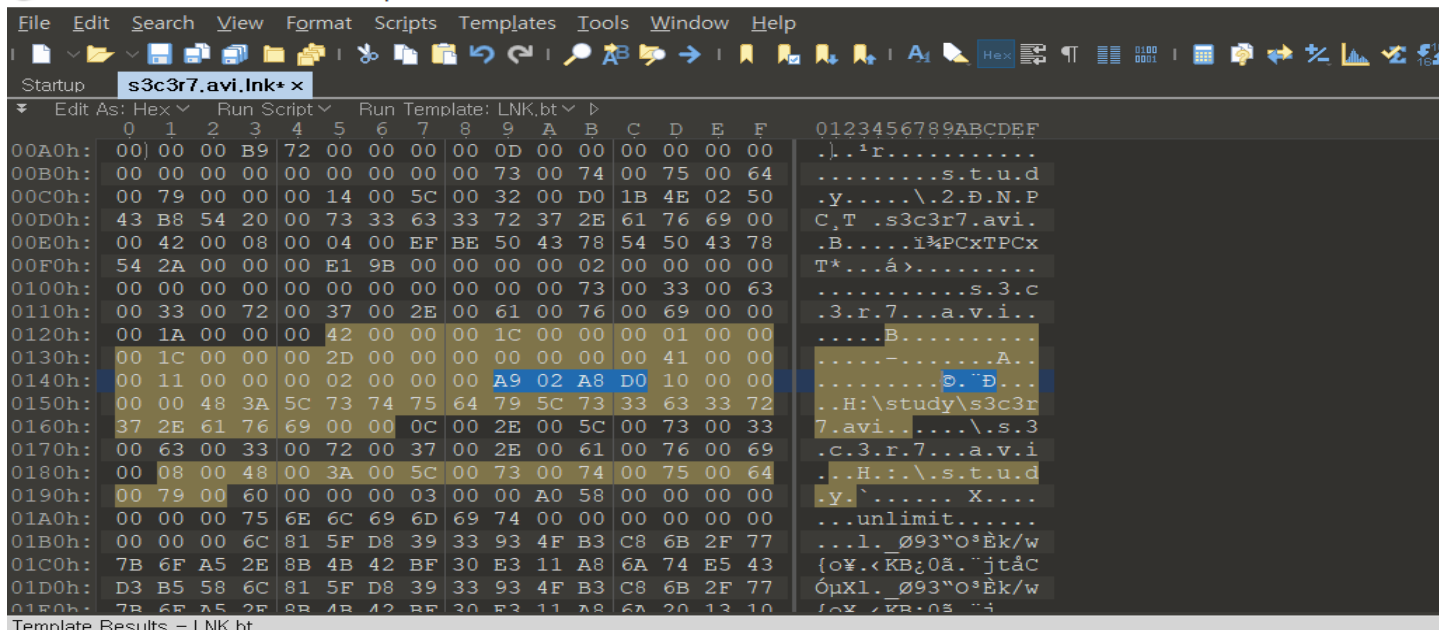
= 10/16/2013 14:24:50

쓰인 시간 (FILETIME Write Time)

= 10/16/2013 10:37:47

# 볼륨 시리얼?

010 Editor - C:\Users\User\Desktop\file\_deleted\ws3c3r7.avi.lnk\*



Name	Value	Start	Size	Color	Comment
struct ExtraDataBlock...	s3c3r7.avi	E1h	42h	Fg: Bg:	
uint16 TerminalID	0	123h	2h	Fg: Bg:	
struct LinkInfo sLinkInfo		125h	42h	Fg: Bg:	
uint32 LinkInfoSize	66	125h	4h	Fg: Bg:	
uint32 LinkInfoHeaderSize	28	129h	4h	Fg: Bg:	
struct LinkInfoFlags sLin...		12Dh	4h	Fg: Bg:	
int VolumeIDAndLocal...	1	12Dh	4h	Fg: Bg:	
int CommonNetworkR...	0	12Dh	4h	Fg: Bg:	
int Unused1 : 30	0	12Dh	4h	Fg: Bg:	
uint32 VolumeIDOffset	28	131h	4h	Fg: Bg:	
uint32 LocalBasePathO...	45	135h	4h	Fg: Bg:	
uint32 CommonNetwork...	0	139h	4h	Fg: Bg:	
uint32 CommonPathSuff...	65	13Dh	4h	Fg: Bg:	
struct VolumeID sVolum...		141h	11h	Fg: Bg:	
uint32 VolumeIDSize	17	141h	4h	Fg: Bg:	
enum DriveType	DRIVE_REMOV...	145h	4h	Fg: Bg:	
uint32 DriveSerialNum...	3500671657	149h	4h	Fg: Bg:	
uint32 VolumeLabelOf...	16	14Dh	4h	Fg: Bg:	
string Data[1]		151h	1h	Fg: Bg:	
string LocalBasePath[20]	H:\study\Ws3...	152h	14h	Fg: Bg:	
string LocalBasePath...	72 'H'	152h	1h	Fg: Bg:	
string LocalBasePath...	58 ':'	153h	1h	Fg: Bg:	
string LocalBasePath...	92 'W'	154h	1h	Fg: Bg:	
string LocalBasePath...	115 's'	155h	1h	Fg: Bg:	

Selected: 4 bytes (Range: 329 [149h] to 332 [14Ch])

uint32 DriveSerialNum... 3500671657 149h 4h Fg: Bg:

42 00 00 00 1C 00 00 00 01 00 00  
2D 00 00 00 00 00 00 00 41 00 00  
02 00 00 00 A9 02 A8 D0 10 00 00  
73 74 75 64 79 5C 73 33 63 33 72

볼륨 시리얼 = A9 02 A8 D0???

리틀엔디언 방식으로~

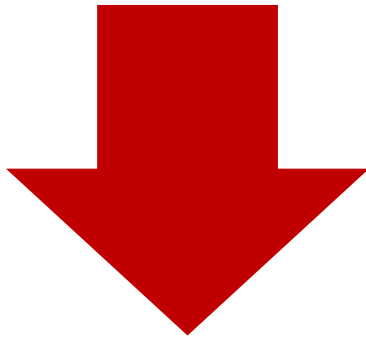
볼륨 시리얼 = D0 A8 02 A9



시간은 GMT+9 입니다. lowercase(md5(원본 경로\_만들어진 시간\_마지막 실행 된 시간\_쓰인 시간\_볼륨 시리얼))  
ex)lowercase(md5(C:\XCZ\key.txt\_20121021160000\_20131022000000\_20131022000000\_AAAA-BBBB))

H:\study\ws3c3r7.avi\_20131016045210\_20131016142450\_  
20131016103747\_D0A8-02A9

GMT+9



H:\study\ws3c3r7.avi\_20131016135210\_20131016232450\_  
20131016193747\_D0A8-02A9

Your Hash:



Your String: H:\study\s3c3r7.avi\_20131016135210\_20131016232450\_20131016193747\_D0A8-02A9

Use this generator to create an MD5 hash of a string:

→ Generate

# 해결~



QnA...?

감사합니다~