
Subject: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Sat, 06 Jul 2013 13:26:09 GMT

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Hi,

I splitted protect package in 3 parts :

Protect Contains code encryption, can be used standalone

ProtectClient Client side of network protection

ProtectServer Server side of network protection

You can use Protect package stand-alone, providing an encryption key provider which can be, for example, an hardware key.

No more dependency from mysql or sqlite

ProtectClient has also SQL dependency removed

The only changes needed in user code are include files;

<Protect/ProtectClient.h> becomes <ProtectClient/ProtectClient.h>

<Protect/ProtectServer.h> becomes <ProtectServer/ProtectServer.h>

<Protect/Protect.h> remains the same.

This package(s) still depend on obsoleted web package found on svn repository; I'm on the way of removing this dependence.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Sun, 07 Jul 2013 21:29:11 GMT

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ProtectXXX packages now don't depend anymore on obsoleted Web package

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 31 Jul 2013 15:07:54 GMT

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Where might I find this new version?

I tried using the protect package in my program (the version from the stable upp release).
I use MSVC10 on Windows XP
The program would crash every time on PROTECT_END_FUNC; but obfuscate seems to work.
(yes, the keys match)

My businesspartner has a windows7 machine and on his computer the whole program refuses to start. No messages.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 31 Jul 2013 15:13:15 GMT
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Hi,

I tested the protect package ONLY on MSC9.
Somebody report it working on MSC10 too, but I'm not sure.

The package, code encryption part, is STRONGLY compiler dependent, so there's no guarantee at all that it'll work on new compiler versions, due to core-rearranges by optimizer.

I tried all my possible to work around this with MSC9 and GCC. but some code path may break it too.
AND, it will surely NOT work on MSC64 bit due of lacking of inline assembly support.

You can try to insert/remove some code inside your protected function to see if something changes; if you've a SHORT non-working testcase I can try (not immediately) to check what's happening there.

Anyways, the new package is on SVN and should be on nightly builds. I'm using it in a commercial app without problems.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 31 Jul 2013 16:16:38 GMT
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Could things like pipeline length of the processor be an issue?
I read somewhere that modern processors are not fond of self modifying code. Might trigger

virusscanners also.

The protected function is pretty wild with a lot of dependencies, but I'll see what I can do.

(and where can I get the new version for testing?)

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 31 Jul 2013 16:23:54 GMT

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Alboni wrote on Wed, 31 July 2013 18:16: Could things like pipeline length of the processor be an issue?

maybe, but I doubt it.... my protected functions runs reliably in 12 customers in windows varying from winxp to windows7) and some 200+ people tested it with no problems at all. On my 4x2 core notebook it runs quite well too.

It may depend on some code-path rearrangements by optimizer... I had some problems because of it on the beginning.

Last version is on svn or on nightly builds.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 31 Jul 2013 18:46:25 GMT

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Ok, I managed to make an example that crashes on closing the app.

File Attachments

1) [ProtectCrash.zip](#), downloaded 548 times

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 31 Jul 2013 20:29:11 GMT

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Ok, got it, with a simple solution... I don't remember why, but it was because of some compiler workaround, but you NEED a return BEFORE the PROTECT_END_FUNC :

```
PROTECT_START_FUNC(Decrypt)
....
.....
return;
PROTECT_END_FUNC
```

I can't hard code it because function may or may not return a value, so you have to put yourself.

Tested with your sample code, don't crash anymore.

On next weeks I'll see if I can find a better solution.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 31 Jul 2013 21:01:30 GMT
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Thanks! I'll try it out!

So I can't encrypt a part of a function?

This return doesn't apply to obfuscate I presume?

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 31 Jul 2013 21:04:54 GMT
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The macro is done to be able to encrypt parts, but the bug prevents it for now.
So, for the meantime just put the return, I'll see if I can fix it.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 31 Jul 2013 21:06:07 GMT
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Alboni wrote on Wed, 31 July 2013 23:01
This return doesn't apply to obfuscate I presume?

Nope, this one is working correctly. And that's weird, because obfuscate do a re-encryption on exit, so it should be easier to trigger the bug.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 31 Jul 2013 21:38:12 GMT

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It works on my machine now!

But the version I send to my colleague only had obfuscate in it, and it didn't work on his (Win7) computer. Are there any rules to obfuscate, like can I do....

```
void function()
{
.....code
.....
OBFUSCATE_START_FUNC;
.....
.. secret stuff
.....
OBFUSCATE_END_FUNC;
.....
more code.....
}
```

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 31 Jul 2013 21:44:31 GMT

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uhm.... I don't remember.

The obfuscate stuff decrypts on enter, executes and re-encrypts the code on exit. It should be safe, but you MUST NOT have a return in the middle of the encrypted code, otherwise on next call it'll crash.

so, this should be ok :

```
code
OBFUSCATE_START_FUNC
secret
<NO RETURNS HERE !!!>
OBFUSCATE_END_FUNC
code
```

return

but NOT :

```
code
OBFUSCATE_START_FUNC
secret
return      <--- WRONG!
OBFUSCATE_END_FUNC
code
return
```

(this is clearly stated in bazaar doc page...)

I've just tested it on my virtualbox windows7 and it works well, but I'm using MSC9. IIRC I had some problems with MSC10....

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 01 Aug 2013 08:22:39 GMT
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Sadly it still doesn't work on my collegues pc.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 01 Aug 2013 08:26:25 GMT
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Really weird.... maybe he did something with security on his machine ? My app NEEDS to overwrite code, it uses a function that makes code writeable before decrypting it. I don't know if in windows 7 there's a way to disallow this. Ask him to disable antivirus first.....

Max

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 01 Aug 2013 11:59:58 GMT
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That didn't work. Maybe he needs admin rights?

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Thu, 01 Aug 2013 12:02:26 GMT

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Nope, on my machines it doesn't.

Could you please send your colleague a small sample to see if it crashes too ?

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Thu, 01 Aug 2013 12:06:27 GMT

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Does it execute code in the data segment?

Turning on data execution protection on my XP didn't make it stop working.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Thu, 01 Aug 2013 12:10:24 GMT

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Alboni wrote on Thu, 01 August 2013 14:06 Does it execute code in the data segment?

Turning on data execution protection on my XP didn't make it stop working.

Nope, it decripts the code inside code segment, so is the opposite : it reads and write inside code segment.

This is allowed by this call :

```
bool res = VirtualProtect(start, size, access ? PAGE_EXECUTE_READWRITE :  
PAGE_EXECUTE_READ, &oldProt);
```

I don't know if it is possible to block it on windows7.

Never had such problems before.....

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Thu, 01 Aug 2013 12:13:58 GMT

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I'll make a popup if the call fails with the extended error info
and try again with my program

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Thu, 01 Aug 2013 12:57:30 GMT

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No popup so VirtualProtect does not fail or doesn't get called.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 01 Aug 2013 13:41:34 GMT

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VirtualProtect returns 0 when failing, so you can't see by app crash. You could log the return value. You see the call inside Protect.cpp file.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 01 Aug 2013 14:25:04 GMT

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Yeah, I did this:

```
bool PROTECT_WRITE_ACCESS(byte *start, size_t size, bool access)
{
    dword oldProt;
    bool res = VirtualProtect(start, size, access ? PAGE_EXECUTE_READWRITE :
    PAGE_EXECUTE_READ, &oldProt);
    if (!res)
    {
        Exclamation(::Format("VirtualProtect fail %d (size=%d, access=%d)",(int)GetLastError(),
(int)size, (int)access));
    }

    return res;
}
```

but no popup appeared.

The testapp I sent you with the "return" modification applied did run btw. But my big app failed silently on my colleagues computer, (works on mine) the non encrypted version works on both.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Sun, 04 Aug 2013 23:39:59 GMT

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Hi,

I guess I've find the problem.
On next days I'll check it out and submit the fixed code.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Mon, 05 Aug 2013 08:36:26 GMT
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Waiting with anticipation
Thank you...

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Tue, 06 Aug 2013 17:26:31 GMT
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Could you please test replacing Protect.h with attached file ?

(please test BOTH PROTECT and OBFUSCATE, on your friend's machine too. You DON'T need anymore the RETURN of former posts)

File Attachments

1) [Protect.h](#), downloaded 525 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 00:44:33 GMT
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I tested briefly on my computer: (xp) on the stable release version.
*Encrypt indeed works without return now.
*Obfuscate now crashes the program. It didn't before.

I will report on the other computer tomorrow.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 01:31:02 GMT

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I inspected the lines that were altered.

$a-b+c$ sometimes gets interpreted as $(a-b)+c$ and sometimes as $a-(b+c)$ wich yields a different result.

So I tried using () on this line: (274)

```
PROTECT_OBFUSCATE(__startPtr, __endPtr - __startPtr + 2, __keyPtr, 16); \
```

The version below doesn't crash on my pc, but I don't know if this is what was intended.

```
PROTECT_OBFUSCATE(__startPtr, __endPtr - (__startPtr + 2), __keyPtr, 16); \
```

If I do the same on Encrypt it does crash, so that suggest not.
In any case is it helpful to use () to not let the compiler decide.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 07 Aug 2013 07:33:44 GMT

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Alboni wrote on Wed, 07 August 2013 03:31 I inspected the lines that were altered.

$a-b+c$ sometimes gets interpreted as $(a-b)+c$ and sometimes as $a-(b+c)$ wich yields a different result.

Nope, + operator associates left to right, so it's always $(a - b) + c$, which is the intended behaviour.
I forgot to take the 2 bytes of a jmp instruction, when decrypting on windows, at least for PROTECT.

I'll check again OBFUSCATE.....

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 07 Aug 2013 07:56:38 GMT

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Please recheck now with attached file.... it should be ok.

Let me know your results on ALL of your tests, I'll wait for it before updating svn.

Ciao

Max

File Attachments

1) [Protect.h](#), downloaded 891 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 11:01:37 GMT

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(I have not recompiled EncryptDecrypt during the tests, I assumed this was not necessary. Let me know if I thought wrong)

encrypt and obfuscate now both run fine on my computer.

Obfuscate gives a compiler warning:
warning C4102: '___end' : unreferenced label

It still doesn't work on my collgues's pc.

I changed protectEncrypt so that it doesn't alter the executable filetime.

File Attachments

1) [ProtectEncrypt.cpp](#), downloaded 541 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 07 Aug 2013 11:07:55 GMT

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Alboni wrote on Wed, 07 August 2013 13:01

It still doesn't work on my collgues's pc.

Well... I ran out of ideas about it.... Did you compile the code and sent him the compiled app, or did him compile by himself ?

Does he have the ability of running code inside debugger and give you a backtrace ? (I don't remember well, but IIRC windows has some kind of just-in-time debugger that can do it...).

Did he run the small testcase, or the complete app ?

If the problem is just on latter, could you make him test a small sample app with just the DoMain() and maybe a DoObfuscate() calls ?

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 16:49:00 GMT

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And.... maybe a dumb question, but do the app run on your friend's PC WITHOUT the PROTECT flag (so without the protection code embedded) ?

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 07 Aug 2013 20:00:16 GMT

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I send him the .exe of the complete app (5.2 Mb exe)

Yes it runs absolutely without the protect flag. That's the funny thing. I would not steal your time like that. The software is being used by several clients on various systems.

If I send the testapp I sent earlier, it runs ok for both encrypt and obfuscate. I think there may be some app elements that do initialisations in a different order perhaps. Then the problem might go away if I create them on the heap.

Or maybe my protected function is too big and a longer jump instruction is generated? I want to hide the whole logic that checks the licence and starts the main window.

Debugging on the other computer:

There was a popup with lots of times FREEFREEFREEFREE in it.

There was a crash in a filehandling routine because the filenamestring contained garbage. It would normally be empty if the functions failed. None of this happens with the protect flag off.

I will try to build a new example that will display the same problem as the big app.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 21:18:18 GMT

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So, we can try this, but it must be done on your friend's machine.

1) Remove PROTECT_START_FUNC and END_FUNC macros from your protected function and replace them with the code in Protect.h (remove the backslashes, of course), so you can step inside macros with debugger.

2) Build the app, but do NOT run the ProtectEncrypt on it. Step up to protected function beginning, note the code range of the function, dump it on a file. Name it as UNENCRYPTED.BIN. The

difficult part is to find the end of the function inside binary code, but you can search for PROTECT_END_MARKER byte sequence.

3) Run ProtectEncrypt on app, then do the same as before. Beware to stop BEFORE the call to Decrypt function.

Store the code area inside ENCRYPTED.BIN file. Take care it has the SAME length as former one.

4) Without exiting debugger, step OVER the decrypt function call, and re-save the binary code inside DECRYPTED.BIN file.

As before, the file should have same length as 2 former files.

5) You can send me the 3 binary files, if you trust. Otherwise, compare the UNENCRYPTED.BIN file with the DECRYPTED.BIN file. They should be identical, besides the marker (PROTECT_START_MARKER and PROTECT_END_MARKER which gets overwritten by ProtectEncrypt.

If there are other differences besides markers, try to locate them.... if they're near end marker, the decrypt routine is missing some parts.

You could also check if ProtectEncrypt do its job on the whole code between both markers, by comparing UNENCRYPTED and ENCRYPTED files. That could give some hints too.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 07 Aug 2013 21:21:05 GMT

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Btw, the FREEFREEFREE is a marker of unallocated area used by upp..... I suspect there are some memory problems somewhere, but not sure.

Which are the differences between your machine and your friend's ? OS, 32 or 64 bit, kind of processor.... ?

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 21:43:44 GMT

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Mine: (on which it all runs)

Intel Pentium 4 3.2Ghz, 2GB ram, Windows XP home (up to date)
keyboard from 1991

His:

Intel Core i-3 laptop 8GB ram, Windows 7, 64 bit

Compiler: upp version and compiler are the same on both machines:
Upp 5485 and MSVC10

.....

Oh that reminds me... I forgot to give your patched protect.h to him so the debug run is not valid. I will repeat that one tomorrow with the proper version.

All the other tests were with executables built on my machine, so those count.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 21:46:47 GMT

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Alboni wrote on Wed, 07 August 2013 23:43Mine: (on wich it all runs)
Intel Pentium 4 3.2Ghz, 2GB ram, Windows XP home (up to date)
keyboard from 1991

His:

Intel Core i-3 laptop 8GB ram, Windows 7, 64 bit

Uhhmm... the big difference is the 64 bit OS.

Could you try it on another machine with windows7 64 bit ? It should make no difference, but that's the only important difference I see....

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 07 Aug 2013 21:54:02 GMT

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I will try/practise the steps you suggest on my own machine first.

If there are differences they should show up, the code is the same.
My computer might just be more tolerant to "almost right".

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 21:56:21 GMT

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It would be quite weird, but you can try.

Between the UNENCRYPTED and DECRYPTED you should find ONLY differences on markers parts. If you find more, tell me.

If you don't, I'm afraid you'll have to test it on your friend's machine.

Ah, btw... I guess you'll need another debugger, the UPP one don't allow to save binary chunks, IIRC.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 21:57:36 GMT

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Oh, wich one would you suggest?

(I also miss the possibility to compile c code to an .asm file instead of .obj I really liked that in Borland C++)

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 07 Aug 2013 22:02:10 GMT

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Really don't know... I guess MSC has a debugger which is quite powerful, but it's long time I don't use it.

Otherwise, there's IDA (paid) and some others.

But the one of VC should do the trick.

I use Linux usually, so I can't give you better suggestions

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 22:05:44 GMT

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Linux will be the next challenge, once the Windows version is ready and I can pay my bills again.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Wed, 07 Aug 2013 22:07:39 GMT

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Well... In my commercial app I compile for both OS everytime.... sometimes it becomes rather difficult to fix it at once later.

With UPP you don't have to change too much, but some stuffs can become tricky.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 22:10:02 GMT

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Ahhh... got a small idea.... Please ask to your friend to download my app and test it on its OS.

www.timberstruct.com (or .it)

I'll attach here a test file.

File Attachments

1) [ArchPetas.tim](#), downloaded 506 times

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 07 Aug 2013 22:10:52 GMT

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Do you think writing the code to file from the code itself is possible? (seperate function, not encrypted)

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Wed, 07 Aug 2013 22:13:59 GMT

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what is a .tim file? how do I open it?

Edit: oh a file for your app.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 22:14:24 GMT

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Alboni wrote on Thu, 08 August 2013 00:10Do you think writing the code to file from the code itself is possible? (seperate function, not encrypted)

Yes, it is... but the problem is to write out the decrypted part. And not so easy, the start is easy to find, but then you must locate end of code too.

And for decrypted part, you should decrypt it somehow inside your code before storing.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Wed, 07 Aug 2013 22:15:24 GMT

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Alboni wrote on Thu, 08 August 2013 00:13 what is a .tim file? how do I open it?

It's a testfile of my application which you can download at <http://www.timberstruct.com>

You can ask your friend to test it on his OS.
(free demo for 1 month)

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Wed, 07 Aug 2013 22:20:55 GMT
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I'll try inserting 10 nop statments begin and end to find it.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 08 Aug 2013 11:39:14 GMT
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I gave the updated protect.h to my colleague, but it gave the same results in the debug run (see attached picture).

File Attachments

1) [protect_crash.PNG](#), downloaded 681 times



- kassa
- kassa/kassalib
- kassa/google
- kassa/inkoop
- kassa/lijsten
- kassa/multi
- kassa/plattegrond
- kassa/skin
- Core**
- Core/SMTP
- Core/SSL
- CtrlCore**
- CtrlLib**
- Draw**
- GridCtrl
- MySql

- PdfDraw
- Report
- RichText
- Sql
- SqlCtrl
- Web
- plugin/bmp
- plugin/jpg
- plugin/png
- plugin/sqlite3
- plugin/z
- Cypher
- ProductVersion
- Protect
- <prj-aux>
- <ide-aux>

- # Core.h
- # config.h
- # Defs.h
- Cpu.cpp
- Mt.h
- Mt.cpp
- OL_Set.cpp
- Global.h
- HeapImp.h
- heaputil.cpp
- sheap.cpp
- lheap.cpp
- heap.cpp
- heapdbg.cpp
- # String.h
- AString.hpp
- String.cpp
- WString.cpp
- StrUtil.cpp
- CharSet.i
- CharSet.h
- CharSet.cpp
- Bom.cpp
- Kernel32W.dli
- Mpr32W.dli
- Path.h
- Path.cpp
- NetNode.cpp
- App.h
- App.cpp
- Stream.h
- Stream.cpp
- BlockStream.cpp
- Profile.h
- Diag.h
- Log.cpp
- Debug.cpp
- Util.h
- Ini.cpp
- Util.cpp
- mathutil.cpp

- Containers**
- Algo.h
- Topt.h
- Vcont.h
- BiCont.h
- Vcont.hpp
- Vcont.cpp
- Index.h
- Map.h
- Index.hpp
- Tuple.h
- Other.h
- Hash.cpp
- Concretes**
- Cbgen.h
- Callback0.h
- Callback1.h
- Callback2.h
- Callback3.h
- Callback4.h
- Callback.h
- Callback.cpp
- TimeDate.h
- TimeDate.cpp
- Value.h
- Value.hpp
- Value.cpp
- ValueUtil.h
- ValueUtil.cpp
- Complex.h
- Format.h
- Format.cpp
- Convert.h
- Convert.cpp
- Color.h
- Color.cpp
- Gtypes.h
- Gtypes.cpp
- Language**
- i18n.h
- t.cpp

hoofdscherm.h kassa.sch kassa.lay best

Find (Ctrl+Q)

```

std::vector
std::hash
std::less
std::ref
std::statement_executor
std::value_order
std::value_pair_order
str_accum
str_buffer
stream
stream_error
stream_raster
stream_raster::raster_factory
stream_raster_encoder
string
string0
    
```

```

String0 : private Moveable<String0> : class
    MEDIUM = 31 : enum
    SMALL = 0 : enum
    KIND = 14 : enum
    LLEN = 2 : enum
    SLEN = 15 : enum
    SPECIAL = 13 : enum
    len : int
    s : const char *
    Dsyn() : void
    SLen() : char&
    SLen() const : char
    LLen() : dword&
    LLen() const : dword
    IsSmall() const : bool
    IsLarge() const : bool
    IsMedium() const : bool
    IsRef() const : bool
    Ref() const : Rc *
    IsShared() const : bool
    IsSharedRef() const : bool
    LAlloc() const : int
    LEqual(const String0& s) const : dword
    LCompare(const String0& s) const : int
    LSet(const String0& s) : void
    LFree() : void
    LCat(int c) : void
    LHashValue() const : unsigned
    UnShare() : void
    SetSLen(int l) : void
    Ptr() : char *
    
```

Autos Locals Watches Explorer Memory

chr	e472d58??
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Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 08 Aug 2013 11:41:09 GMT
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I also managed to create a new example that shows the same behaviour, by "protecting" the reference example "SqlArray"

File Attachments

1) [SqlArray.zip](#), downloaded 496 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 08 Aug 2013 11:43:08 GMT
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But where does it crash ? It doesn't seem inside encrypted code....

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 08 Aug 2013 12:04:00 GMT
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So, I recompiled your SqlArray with MSC9 and tested on a 64 bit PC, and it works perfectly.

I'll attach here the build, so you can ask your friend to test it. It can be a MSC10 issue, but I doubt it.

The most probable stuff is the usual dumb antivirus program that blocks self modifications to code.

If even this SqlArray.exe doesn't work on your friend's PC, ask him to DISABLE ALL ANTVIRUS and retest.

I never had a crash because of antivirus, but I do have many problems with my customers of dumb antivirus reporting my code as suspect or, worse, as a trojan.

I think that antivirus producers should be sued because of this. They made me loose a couple of customers with their dumb behaviour.

(I had to pack the exe with 7zip, the normal zip wasn't enough to stay inside the 2MB limit)

File Attachments

1) [SqlArray.7z](#), downloaded 484 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 08 Aug 2013 12:35:45 GMT

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My sqlarray.exe is 1.69 Mb
Did you compile 'optimal' and protected?

He uses Eset antivirus. We also checked without antivirus. Made no difference. All test executables scanned clean.

The timberstruct program runs fine.

File Attachments

1) [SqlArray.exe](#), downloaded 1185 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 08 Aug 2013 12:49:12 GMT
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Well, the mistery is being solved

Your build with MSC10 optimal DOESN'T work on my machine (32 bit) nor on a 64 bit machine.

As I told you some time ago, there are problems with MSC10.

The same app rebuilt with MSC9 in optimal mode DO work both on 32 and 64 bit.

Sorry but I have not MSC10 handy nor time now to solve it for MSC10.... I guess its optimizer is quite more aggressive then MSC9 one and needs workarounds.

By now, you have the only choice of building it with MSC9....

Ciao

Max

File Attachments

1) [SqlArray.exe](#), downloaded 467 times

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 08 Aug 2013 12:51:20 GMT
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Btw, I'm thinking on a novel copy protection method that should work also for 64 bit MSC, but I'll

try it in some time, not now. And probably it'll be cheap but commercial one

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Thu, 08 Aug 2013 13:04:43 GMT

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Ok. I will install msc9 and try my app.

I might still try to fix it for msc10.

Thanks for helping me out like this.

I appreciate!

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Thu, 08 Aug 2013 13:08:12 GMT

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btw: your executable is smaller, so msc10 optimizing doesn't seem to be better at least for size.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Thu, 08 Aug 2013 13:08:51 GMT

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No problem... If you fix it for MSC10, please test with MSC9 too and post the modified code.

I guess it's an optimizer problem, with GCC I became crazy in optimal mode, as he has a quite aggressive optimizer.

MSC9 wasn't that difficult, but I'm afraid MSC10 will be.

Usually you trick the optimizer with some jumps and some useless code that compiler think it's needed.... You can see it looking at posix part of protect.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server

Posted by [mdelfede](#) on Thu, 08 Aug 2013 13:11:03 GMT

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I think MSC10 is better on speed optimization, not size.

But I think also that speed gain is not so important, with modern machines, at least if you don't

code a game or process-intensive applications. Mine is, but I prefer to optimize my code alone than leave it to compiler.

Ciao

Max

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Thu, 08 Aug 2013 13:14:15 GMT

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ok. What the purpose of the cpuid call? The results are not used anywhere or so it seems.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Thu, 08 Aug 2013 13:15:53 GMT

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Alboni wrote on Thu, 08 August 2013 15:14ok. What the purpose of the cpuid call? The results are not used anywhere or so it seems.

It resets the processor cache. It's needed because you're rewriting the code.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [Alboni](#) on Fri, 09 Aug 2013 21:55:38 GMT

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mdelfede wrote on Thu, 08 August 2013 14:04I do have many problems with my customers of dumb antivirus reporting my code as suspect or, worse, as a trojan.

I think that antivirus producers should be sued because of this. They made me lose a couple of customers with their dumb behaviour.

I read up a bit on the topic, and the conclusion is that if you sign the executable (after crypting it) with a valid code certificate then the number of false positives will greatly reduce.

The Microsoft signtool is already included with the compiler.

The certificate costs about 180 euros a year.

Subject: Re: Protect packages - split code encryption,client and server
Posted by [mdelfede](#) on Sat, 10 Aug 2013 05:37:18 GMT

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Alboni wrote on Fri, 09 August 2013 23:55

I read up a bit on the topic, and the conclusion is that if you sign the executable (after crying it) with a valid code certificate then the number of false positives will greatly reduce.

The Microsoft signtool is already included with the compiler.

The certificate costs about 180 euros a year.

Thank you, but I absolutely refuse to pay money because of other people's mistakes.

180 Euro for a certificate to be able to sell MY application because of bullshit antivirus ? NEVER.

Subject: Re: Protect packages - split code encryption,client and server

Posted by [Alboni](#) on Sun, 11 Aug 2013 01:45:00 GMT

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I hear ya. I'm still considering it.

If it prevents 1 client from running away then it's worth it for me.
