STAR FORCE ®

You create - We protect

StarForce C++ Obfuscator

Solution for C and C++ source code protection against analysis and reverse engineering

Why do we need code obfuscation?

- Software developers need it to protect copyright and intellectual property

- Customers need it to prevent DRM overcoming and cracking the part of the code responsible for the transmission of sensitive information

Code protection is required for the programs with a high risk of hacking. In case of successful reverse engineering the modified programs (fraud with electricity metering device or illegal connection to the satellite TV) could cause losses not only for the software developer but also for the customer, a service provider who has acquired this software

How the obfuscator works

Control flow graph
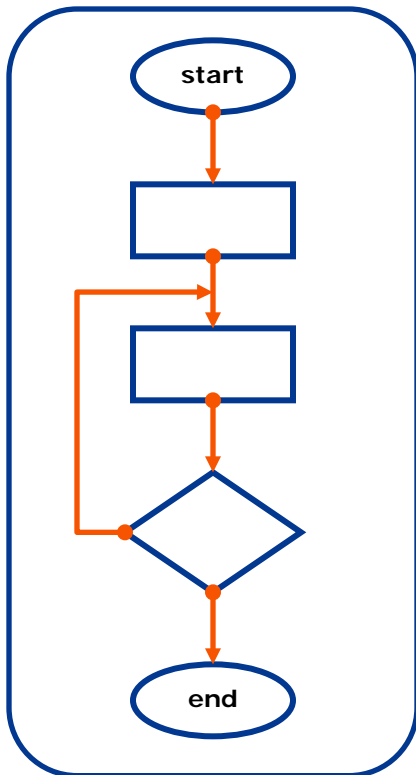
Obfuscated control flow graph
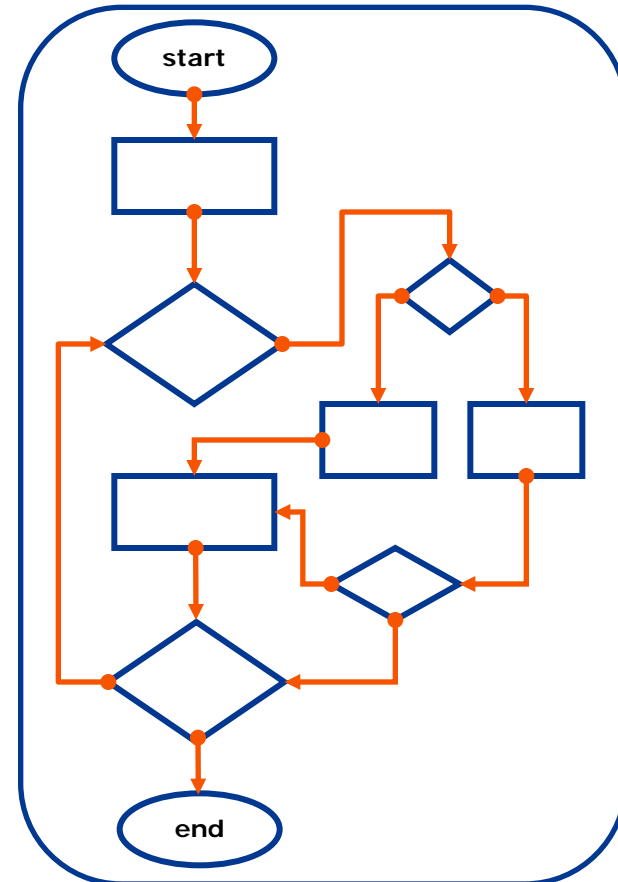
Obfuscation Perspective

Chris Kaspersky: "The future of obfuscation prepares negative perspective for hackers. From practical point it means that it makes no sense to work with standard analytical methods. In theory it is possible to remove trash and superfluity that were added by an obfuscator but in practice it's very difficult. And it is almost impossible to unravel code of a Petri net because it is a one-way process and nobody is able to reverse it"

Services

- Content: transmission and playback of video, television channels delivery, etc.

- Resources delivery: electricity, water, gas and etc.

- Financial operations

- Other services that are delivered to a user via a device. This device can be used both for the service consumption and for measuring and data transmission

Content: protection from the loss of standard DRM keys

Situation

Content is usually protected by a standard DRM, e.g. AACS or HDCP. Every electronic device model has a unique DRM key and the loss of it has many negative consequences

StarForce Affect

StarForce C++ Obfuscator provides protection for the software that is responsible for video/audio streams delivery and use.

After obfuscation the code that is working with DRM keys is reliably protected against analysis and reverse engineering

Content: protection of a standard DRM client side

Situation

The front end of any DRM system, for example OMA DRM, is vulnerable to the attacks that include reverse engineering, modification and protection disabling

StarForce Affect

StarForce C++ Obfuscator allows reducing the risk of DRM cracking due to significant increase of the reverse engineering complexity

oma
Open Mobile Alliance

Content: securing the implementation of custom DRM from reverse engineering

Situation

The development of custom DRM requires to solve the problem of securing the DRM code that works on the end user side

StarForce Affect

StarForce C++ Obfuscator enables the developers to save time for the development of a system that protects DRM against reverse engineering. It provides high efficiency that is known in advance

Content: protection from cracking of Conditional Access System (CAS) for satellite and cable TV

Situation

If a hacker extracts a CAS key he is able to emulate the CAS card or make a custom firmware to get illegal access to the TV content. The software can be distributed over the Internet

StarForce Affect

StarForce C++ Obfuscator provides reliable protection against analyses and reverse engineering for the firmware that is used in STBs. It helps to decrease the number of pirate connections to satellite and cable TV

Resources Delivery: protection of measuring equipment (meters) against analysis and reverse engineering

Situation

Dishonest consumers crack the measuring equipment and substitute the consumption data. The losses of the providers are estimated at billions of US dollars.

StarForce Affect

StarForce C++ Obfuscator allows significantly increase the complexity of reverse engineering for measuring equipment software, and thereby reduce the likelihood of tampering

StarForce C++ Obfuscator Benefits

- The high level of protection is provided by obfuscation both the source code and the binary code

- The obfuscator supports more than 30 obfuscation methods:

    - Conversion of C++ code into virtual machine code

    - Encryption of strings and arrays

    - Code conversion into a state machine

    - Insertion of dummy links

    - Code section merging, etc.

- The support of all popular operation systems: Windows, Mac, Linux, iOS, Android

- StarForce C++ Obfuscator is a stand-alone application that is installed at the customer's site

- Flexible licensing policy (with or without time limitation)

About StarForce

StarForce has the ultimate expertise in software development and digital content protection from copying, hacking and unauthorized use. StarForce solutions are oriented to the corporate, education, gaming and software development markets

More details about StarForce :

2000
year of foundation

75%
growth of income for the publishers who use StarForce Protection System

2011
StarForce entered the Skolkovo Innovation Center

65 million
licenses sold worldwide

422 days
the world record for crack resistance, owned by StarForce

12%
the company's growth in 2013

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