



**SP SOFTWARE POTENTIAL**  
UNLOCK THE POTENTIAL IN YOUR SOFTWARE

# Software Potential Code Protector



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# Protect your Code and Intellectual Property

## Protect your single most important investment – your Microsoft® .NET code.

Your company's software and the source code behind it are at risk—and you may not even be aware of the extent of that risk. Reverse engineering of Microsoft® .NET applications exposes trade secrets, compromises core intellectual property and facilitates piracy.

"In 2009, more than four out of 10 software programs installed on personal computers around the world were stolen, with a commercial value of more than \$51 billion. Unauthorized software can manifest itself in otherwise legal businesses that buy too few software licenses, or overt criminal enterprises that sell counterfeit copies of software programs at cut-rate prices, online or offline" – source BSA/IDC 2010."

Over half of the world's personal computer users - 57% - admit to pirating software. Thirty one per cent say they do it "all the time", "most of the time", or "occasionally" and another 26 per cent admit to having stolen software but only "rarely". These are among the findings of a survey of nearly 15,000 computer users across 33 countries conducted as part of the ninth annual BSA Global Software Piracy Study.

A major source of this unauthorised software is a result of the reverse engineering of applications which facilitates illegal copying and cloning and compromises intellectual property.

## The .NET challenge

No code is unbreakable, but Microsoft® .NET IL is particularly susceptible to reverse engineering. Protection of your code and IP is of vital interest to you as a company, to your investors and to your customers who want to ensure they are using a legitimate product and can remain compliant.

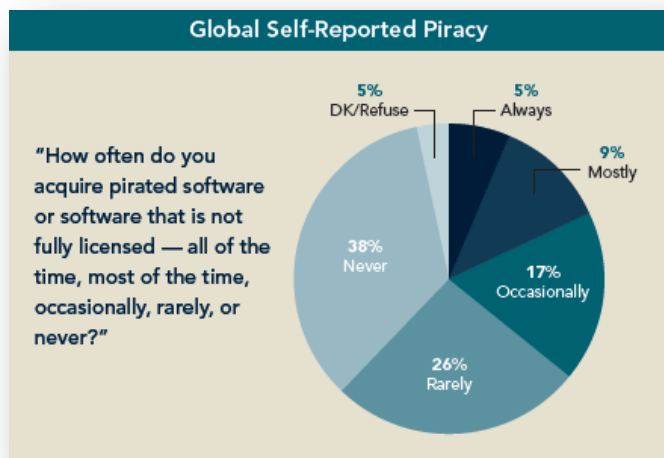
Hackers and pirates are sophisticated in their attacks, and they are constantly looking for new ways to crack valuable intellectual property. Applications built on the Microsoft® .NET Framework run a particular risk of reverse engineering.

You can choose to ignore the problem – though this is unlikely to satisfy savvy investors or customers. You can use basic tools such as obfuscators, but for the ultimate in .NET code protection you really need to look at a solution that has been built from the ground up for the .NET environment and provides the strongest protection available in the market today.

Now you can protect your software from theft, casual piracy, reverse engineering, tampering & misuse with the strongest .NET code protection available. Using a patented code transformation technology that goes beyond traditional obfuscation & encryption techniques, The Software Potential Code Protector from InishTech removes the need for hardware keys, while increased code integrity can also protect against viruses and malware.

## Protecting .NET Applications

Software publishers using Microsoft's .NET framework have benefited from faster development; reduced deployment issues; and a consistent platform across desktop, Web, and mobile applications; as well as support for a range of programming languages such as C#, VB and F#.



However, the power of this consistent platform comes at a cost when it comes to reverse engineering. As opposed to traditional, 'native' development where high-level languages compile down to machine code, which executes against the CPU, .NET languages compile down to the Microsoft Intermediate Language (MSIL). Contained within the MSIL is all of the information necessary to convert it back into a high-level language, like C# or Microsoft® Visual Basic® .NET. The .NET Framework also introduced

# Beyond Simple Obfuscation

reflection, which can be used to examine any .NET-based code, whether it is a single class or an entire assembly.

There are many reflection-based tools available that utilise this meta-data to decompile a .NET assembly and show you just about all of its secrets. With these tools one can browse the classes and methods of an assembly, examine the MSIL generated by these classes and methods, and decompile the classes and methods to see the equivalent in C#, Visual Basic® .NET or F#.

Without adequate protection, hackers can read, copy, and even modify the compiled .NET code. When your application is ready to go to market or deploy into the enterprise, you need a reliable, full-featured, and convenient way to help secure your software.

## Code Transformation

Software Potential's unique approach to Microsoft® .NET code protection is based on a one way, random transformation of an assembly's MSIL—which is easy to reverse engineer—into a unique Secure Execution Environment Language (SEEL)—which is not. Each transform is unique and the resultant SEEL can only be extracted and processed by a corresponding Secure Execution Environment (SEE), enabling the transformed code to run within the native .NET Framework at runtime. The protected execution environment is compiled into the application binaries, making it a permanent and integral part of the application.

Each transformation of MSIL into a unique SEEL is governed by a Permutation package, containing the random MSIL to SEEL mapping and the corresponding SEE.

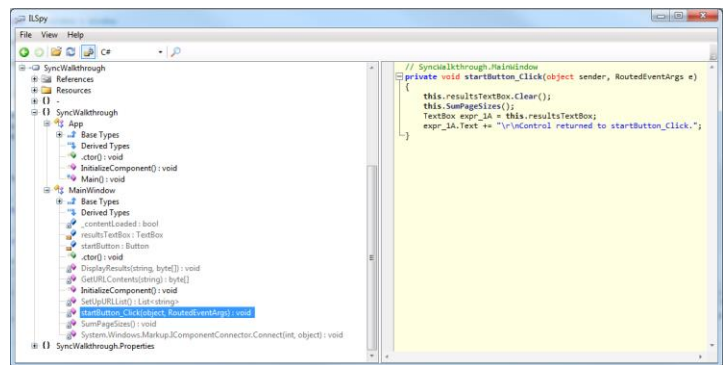
Each Permutation is unique and one can elect to generate multiple permutations, to ensure each product is uniquely protected. It is even possible to regenerate the permutation per release to ensure each assembly is uniquely transformed.

The developer uses the Software Potential Code Protector application, loaded with the required Permutation package, to both uniquely transform selected methods within target assemblies and generate the required runtime components. Code Protector can be integrated with the build environment to automate the code transformation process on build configuration basis.

```
namespace SyncWalkthrough
{
    public partial class MainWindow : Window
    {
        public MainWindow()
        {
            InitializeComponent();
        }

        private void startButton_Click(object sender, RoutedEventArgs e)
        {
            resultsTextBox.Clear();
            SumPageSizes();
            resultsTextBox.Text += "\r\nControl returned to startButton_Click.";
        }
    }
}
```

## Original Source



## Output of Reflector Tool

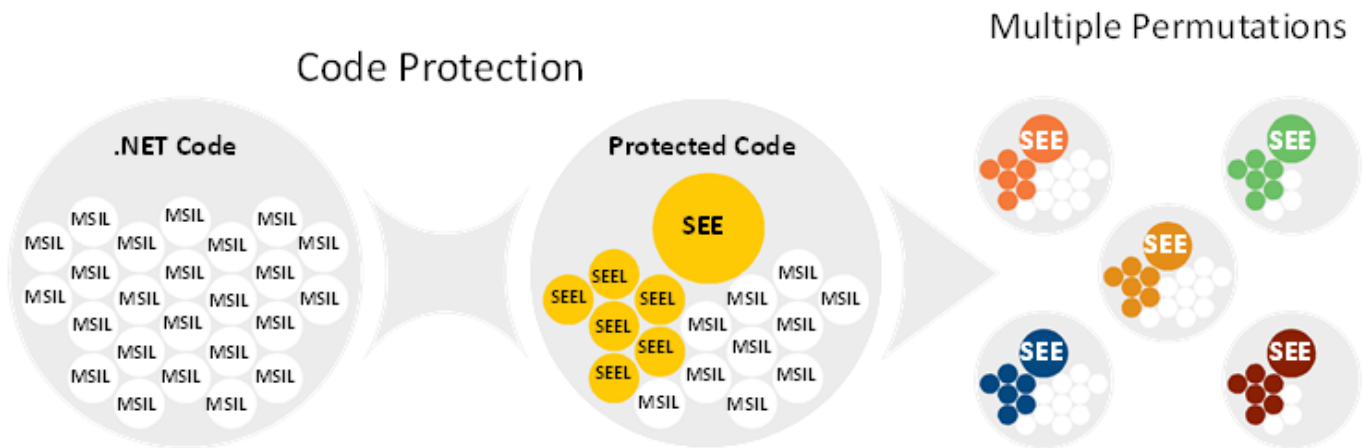
This selective, one-way code transformation mechanism provides a greater level of protection for highly sensitive intellectual property. Because transformed code is practically unreadable, there is minimal risk of in-memory code compromise on client machines.

## Why Software Potential Code Protector?

Software Potential .NET Code Protector is the most secure way for you to protect your valuable code. Code Protector provides:

- ◆ The strongest solution for .NET code protection using our unique, patented transformation and SVM methodology
- ◆ The ability to protect individual applications and even individual application releases or customer versions with unique permutations
- ◆ A seamless integration with the MS Build environment
- ◆ Simple one click protection in minutes
- ◆ Proven return on Investment – Code Protector is a low cost solution that is easy to implement which will provide an immediate return on your investment

# Three simple steps



- ◆ Load Code Protector NuGet package into Visual Studio
- ◆ Select methods to be protected by adding [Protect] attribute
- ◆ Build assemblies as normal to get protected code in the project output



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## About InishTech

InishTech is an innovative cloud technology company specializing in software monetization services for ISVs building software in the .NET ecosystem. InishTech was spun out of Microsoft in 2009 and is now privately held with headquarters in Dublin, Ireland. Microsoft remain a significant minority shareholder.

InishTech's patented SOFTWARE POTENTIAL technology allows software publishers to protect their most valuable asset – their IP – with the industry's most advanced code protection and also provides them with a sophisticated Software Licensing Management platform as a service that gives them total control over the monetization of their products in the marketplace – allowing for complete license enforcement, usage compliance, entitlement management, and easy product configuration / packaging. InishTech is now well established as the licensing & code protection partner for hundreds of the world's most successful .NET software vendors and is a key Microsoft partner in the field of licensing & code protection.



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