

Redvers Consulting Ltd

White Paper

**Protect the intellectual
property in your COBOL
source code with the
Redvers Cloaking Device**



Executive Summary

In these times of global outsourcing and black markets of industrial secrets, it has never been more important to protect valuable and sensitive source code from theft and misuse.

In a speech on global outsourcing Gartner research vice-president Ian Marriott states “the real challenges are security, intellectual property protection and privacy.” he adds “Companies that do not understand

governance will become disconnected from the thrust of the industry and will miss out”.

Whether you are an end user considering the option of outsourcing, a company with COBOL applications that could be sold for profit or even a service company writing COBOL applications for clients, the Redvers Cloaking Device is an essential part of securing the future of your business.

Intellectual Property Theft and Subversion

Court cases involving the theft of intellectual property at offshore outsourcing companies have already appeared in the press. The worry is that for every publicised case you can be sure there are many more that are never reported.

We do not imply that companies or individuals in parts of the world that specialise in the provision of outsourcing, are any less honest than those in the west. They merely derive their competitive advantage from being less expensive than their competitors, not from a vested interest in their client’s future.

The threat of IP theft does not only exist offshore; it can occur at off-site disaster recovery centres or on-site, by contract staff or disgruntled employees.

Self-documenting languages like COBOL and Java make reading and understanding source code easy but they are incapable of keeping the information contained within them confidential.

Many companies do not realize the wealth of intellectual property they own held in legacy systems. While networked systems strive to allow only minimal access to the most basic operational functions, mainframes and powerful servers hold core business logic in source code form, accessible with the minimum of security checks. If unscrupulous individuals were to get access to this code they could:

- Pass processes that make your products superior, to competitors.
- Use account validation routines to divert funds.
- Make public, customer profiling or other information that could bring your company into disrepute.
- Place malicious routines within the code to be triggered at a date of their choosing.

Software and Service Companies

The legal case brought by SCO regarding their ownership of copyright to parts of the Linux operating system has highlighted the risk that software companies take in a world full of litigation.

With IT services being increasingly treated like a global commodity, how can service

companies feel confident that they will be paid for the work they do without the need for expensive international law suits.

Outsourcers also need to prove to potential clients that the corporate secrets they are entrusted with, will be kept safe from theft and corruption.

The Requirement

What the software industry needs today is an inexpensive, practical way of ensuring intellectual property is kept in the hands of the rightful owners, while giving those owners the opportunity to benefit from a global outsourcing revolution.

Encryption of source code doesn't solve the problem because third parties cannot compile and run encrypted code as it must be decrypted first. Unfortunately, once the code is decrypted, it is vulnerable to theft and corruption as before.

Distributing applications in compiled machine code is prone to problems in hardware and operating system compatibility. It is also hard to imagine a customer or software service company capable of programming and debugging in machine code.

If only there was a simple way to keep the information written in corporate source code secure, without sacrificing the flexibility that comes with source code. For many years obfuscators have been providing just such a function.

Obfuscators

Obfuscators obscure the readability of source code by replacing meaningful data names and label names with random nonsensical strings. They also remove any comments within the code and often encrypt literal strings.

Obfuscators do not alter the program logic, nor do they change source code into machine readable objects - output from an obfuscator is still source code that needs to be compiled before it can be executed on a computer.

Obfuscators were originally developed by software houses to prevent the re-engineering of compiled object code back to its original source code state. Applications written in languages like Perl and Java are particularly prone to re-engineering. Microsoft has even included an obfuscator in Visual Studio .net.

COBOL obfuscators are still fairly rare even though the majority of business logic and therefore the intellectual property of an application, is frequently written in COBOL.

What's Special About the Redvers Cloaking Device?

The device is written and distributed in pure COBOL.

This means no additional hardware, software or training is required to install and run the device. It can also be kept in your COBOL source code library with the other COBOL programs until the system is retired or migrated.

Literal string encryption.

Literals coded within the procedure division can reveal critical clues as to the type of processing being performed and conditions that invoke specific processes. The Redvers Cloaking Device encrypts procedure literals to prevent this.

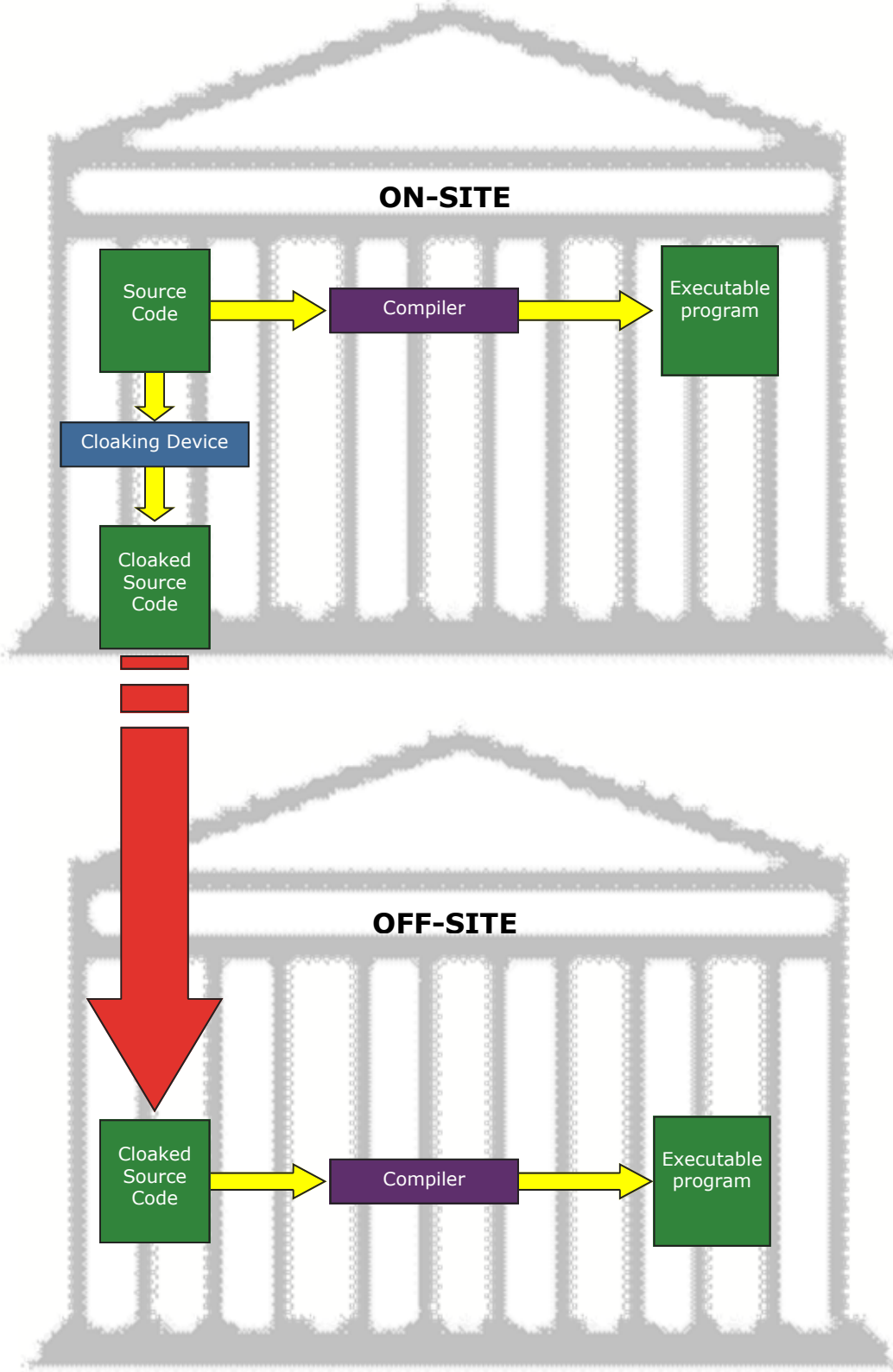
Specific lines of code can be excluded from obfuscation.

This facility allows certain information, such as comments or positional structure, to be retained so that users of the "cloaked" code can still gather enough information to analyze and execute the program. This is particularly useful if the code is to be sold to customers.

Resulting code is approximately 70% smaller than the input.

A byproduct of the removal of positional structure is that the number of lines of code is greatly reduced. This makes "cloaked" code ideal for off-site backup.

How Obfuscators are used On and Off Site



Making a Profit from your Applications

If your IT department has developed COBOL applications that could be useful to other companies, the Redvers Cloaking Device can be used to turn your computer systems into profit making opportunities rather than being seen as just another cost centre.

Selling software in source code form is much simpler than selling in object form because once the code is compiled on the customer's system it is immediately compatible with all

their other COBOL applications. Source code distribution also removes the need to support an endless list of hardware and operating system platforms.

For several years Redvers Consulting has used the Redvers Cloaking Device to market the Redvers COBOL XML Interface. This software product is written entirely in COBOL and distributed in source code form to companies all over the world.

Users of Redvers Cloaked Source Code

Companies currently running programs compiled from source code obfuscated by the Redvers Cloaking Device include:

Affiliated Computer Services (USA)

Bank One / JP Morgan (USA)

Canada Life Assurance (UK)

CUNA Mutual Life Insurance (USA)

Edulinx (Canada)

FirstBank (USA)

Fegro Selgros (DE)

Oppenheimer (USA)

Metavante (USA)

Sasktel (Canada)

Standard Life Assurance (UK)

Suncorp (AUS)

WorldCom / MCI (USA)

Zurich Insurance (UK & SUI)

The Product Package

A perpetual license for the Redvers Cloaking Device costs **3,000 US dollars** or equivalent currency. Alternatively, the device can be leased on an annual basis for just **600 US dollars** per year.

Your purchase includes:

- Product source code ([cloaked](#))
- User Guide
- Corporate level software license
- Two year warranty
- Product upgrades and support via email*

Additional options:

- 24 x 7 telephone hotline support
- Software escrow agreement with Software Escrow Solutions

Software and documents are shipped in the form of email attachments unless otherwise requested. Installation is performed by copying the source code text into your COBOL source code library and compiling.

Further details can be found at:

www.redversconsulting.com/cloaking_device.php

* Free for the first two years followed by an annual fee of 600 US dollars.

About Redvers Consulting

Redvers Consulting have been providing top quality products and services for COBOL applications since 1988. Our clients are primarily large financial institutions in Europe and North America, although we also have customers in many other business and geographical areas.

Our ability to deliver software in COBOL source code form, gives customers reliable, efficient and perfectly integrated solutions to business needs. Source code distribution also means our software will run on all hardware platforms and operating systems: *EBCDIC, ASCII, big endian or little endian*.

We are business partners with **IBM, HP, WRQ** and **Fujitsu Siemens**, and our development team are members of the **Professional Contractors Group**. In 2009 we won the Thames Gateway **Best use of Technology Award**.

Our client list includes:

Affiliated Computer Services (USA)
Bank One / JP Morgan (USA)
Barclays Life Assurance (UK)
Canada Life Assurance (UK)
Citibank NA (USA & UK)
CUNA Mutual Life Insurance (USA)
Deutsche Bank (USA)
Deutsche Rentenversicherung Bund (DE)
Dun & Bradstreet (UK)
FirstBank (USA)
Fegro Selgros (DE)
GMAC Insurance (USA)
John Deere (USA)
Lehman Brothers (USA & UK)
Metavante (USA)
Railtrack / Network Rail (UK)
Sasktel (Canada)
Standard Life Assurance (UK)
Suncorp (AUS)
WorldCom / MCI (USA)
Zurich Insurance (UK & SUI)

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