

DVD-COPS: Software copy protection for DVD-ROMs

The software industry loses enormous sums of money each year due to rampant software piracy. Several attempts have been made to develop protection systems capable of fighting piracy, but at the end of the day it turned out to be just promises and hopeful expectations! Then, publishers thought that the introduction of the DVD format could resolve their piracy problems, but soon enough the software market reality proved that fighting piracy takes is a really difficult task to accomplish, even when using DVD-ROMs!

Today, all these seem to be part of the past; a pioneering breakthrough in copy protection technology has been released: the "DVD-COPS" total antipiracy solution for DVD-ROMs.

DVD-COPS recognizes the original disc and thereby rejects all illegal copies that were produced on a DVD-R or CD-R burner, or by "professional pirates" expertly using illegal glass-masters. Minute differences are scanned and measured to establish the disc's fingerprint and to ensure that illegal copies are not accepted.

This fingerprint is expressed as an access code, or unique key number. The software utility which identifies, recognizes and either accepts, or rejects the DVD-ROM, is itself protected by "Code Security", a system that has been in use since 1984 and is well-known throughout the world, as being virtually unbreakable. Code Security is a legend in the Middle East where piracy is a very serious problem.

DVD-COPS protection does not rely on special mastering, or manufacturing process; no special equipment and machinery is necessary. Therefore, any pressing factory can produce DVD-COPS protected discs.

DVD-COPS relies on state-of-the-art encryption techniques and encoding algorithms that give zero chance to hacking attempts. DVD-R and CD-R burning utilities cannot copy DVD-COPS protected discs and produce workable copies on a large scale. Pirate re-mastering is also out of the question! That explains why DVD-COPS generic cracks cannot be found on the Internet, as it is simply impossible to be created!

DVD-COPS supports all commonly used operating systems, such as: DOS, Windows 3.x, 9x, NT, ME, 2000, XP and OS2. Additionally, all currently available DVD-ROM speeds are supported.

DVD-COPS can be applied on all formats of silver discs (DVD, Mini-DVD, Card-DVD, hybrid, mixed mode, etc.) and it may be used either as a shell protection (Wizard option), or as an API protection (API option). Both options use the very same digital encryption algorithms and most advanced encoding techniques, but on a different operational basis:

- The Wizard option uses an automated wrapper software utility to apply the system in a very simple and fast manner, as a shell (envelope) protection to the software product.
- The API option allows implementation of the system functions and integrated code commands directly into the application's source code, by the use of various specific programming routines and modules, according to the specific programming and security needs of each software product.
- In addition, a combination of the two options, called the GameAPI option, could be used, consisting of object modules that also check the DVD-ROM. Then, developers can have both shell (envelope) protection and additional checks of the DVD-ROM, on selected spots. One more advantage of this method is that these checks can be done much later, or a number of days after installation of the software application, then even in case that a hacker goes through the whole game, he will not find the "mines" that come later.

For DVD-COPS to be implemented into a developer's application, a most dedicated Software Developer's Kit (SDK) is engineered and developed, uniquely for each and any developer, to be used only for the protection of its own software products. This way, maximum anti-piracy security is achieved, and developer's software products get a unique electronic stamp, with its own firm digital encryption algorithm and identification signature. Therefore, one SDK is designed for each and any developer, resulting to unique anti-piracy encryption and software encoding for each customer.

During the system implementation, it is possible that a few minor changes could be made to the installation script. Finally, the gold master DVD-R with the protected application is created and tested.

All protected DVD-ROMs produced out of the same glass-master, no matter how many stampers have been used, are identical and the special software utility contained in the SDK, shall measure one of the DVD-

ROMs to extract the exact matching access code needed for the protected application to run. The code is entirely public, not confidential, and should be included with the CD-ROM as a label sticker, enclosed in the packaging, or printed onto the disc's surface.

During installation of the software, the end-user has to enter the access code. This is done only once, and from then on, the software shall run only when the original DVD-ROM is inserted in the local DVD-ROM drive. The data can reside either on the DVD-ROM, or on the hard disk drive, but the original DVD-ROM must always be present in the drive. If a pirate disc is inserted into the drive, the software will refuse running.

System implementation done by customer

- Customer uses the SDK to implement DVD-COPS into its software product. Extensive testing should follow to ensure that the implementation proceedings have been accomplished properly.
- Customer sends to DVD-factory the protected gold master DVD-R for mass replication. DVD-factory carries out mastering and replication, and the silver DVD-ROMs are finally produced. Sample discs should be thoroughly checked and measured by customer, or MediaWise to calculate the exact access code needed for the protected product to run.
- MediaWise charges customer the royalty per protected DVD-ROM produced, payable upon notification that production has been concluded.

System implementation done by MediaWise

- Customer sends to MediaWise two (2) gold master DVD-R copies of the software product to be protected, along with the DVD-COPS Technical Form 1 and Order Form 2, both duly filled in, signed and stamped.
- MediaWise's personnel uses customer's SDK to implement the DVD-COPS copy protection system into the software product. Extensive testing follows to ensure that implementation has been accomplished properly.
- The protected gold master DVD-R is sent to DVD-factory to carry out mastering and replication for the silver DVD-ROMs to be finally produced.
- Several sample discs of this production are sent to MediaWise to be thoroughly checked and measured to calculate the exact access code needed for the protected product to run without problems, under max security.
- Customer shall be charged by MediaWise the royalty fee per protected DVD-ROM produced, and the implementation fee per software title handled, which shall be payable upon notification that the disc replication has been concluded.

About MediaWise International, Ltd.

MediaWise International is a cutting edge creative, innovative company specializing in Information & Communication Technology Systems & Services.

Our headquarters and collaborating optical disc production plants are based in Thessaloniki, Northern Hellas (Greece). Laboratories and affiliated premises are located all over the world.

As a result of our strategic collaboration with Sanyo Holding we have become a major software fulfillment center in the Mediterranean area and are able to offer a wide gamut of high quality products and services.

Our marketing policy is based on three values: "Product Reliability", "Quality of Service", and "Customer Satisfaction". This focus has allowed us not only to achieve high performance in the areas of human and material resources, but also excellent results: a complete range of high technology products and services for the European, Middle East, and Asian markets.

Our Products and Services list comprises:

- Software Copy Protection,
- Software Security,
- Digital Rights Management (DRM),
- Optical Disc Manufacturing, and
- Internet Advanced Services.

In order to serve our customers in the most cost effective and competitive way, we have established sales offices and local fulfillment centers throughout the Near and Middle East: Istanbul (Turkey), Beirut (Lebanon), Damascus (Syria), Jeddah (Saudi Arabia), and Teheran (Iran). Further expansion is underway in the Far East: Seoul (Korea), Hong Kong, Singapore and Tokyo (Japan).

The company's main business objective is to become a "One-Stop Shop" for a wide range of services related to the software industry. We also have an eye for business opportunities in the ever-evolving software industry and the explosion of demand for Internet services, through research and monitoring of the market.