



Online Activation

Licenses... anywhere, anytime, for anyone

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Introduction

Software that has no license protection can be easily copied or stolen, resulting in significant financial losses for software vendors. Fortunately, the software industry has developed effective defense mechanisms against illegal use and reproduction. More and more vendors are putting their trust in software protection systems to safeguard their intellectual property and know-how. Soft licenses with dedicated activation codes or security hardware like dongles have long become the option of choice for protecting premium applications against illegal use. Software is ubiquitous – very few activities happen without software being involved. Computers run multiple proprietary applications at the same time. Each application is licensed by a traditional software vendor and uses its own protection system: How complex will managing all relevant licenses and activation codes become for the everyday user? Will users have to juggle a mass of proprietary dongles on their already cluttered desktops? This whitepaper describes how CodeMeter License Central can help avoid this scenario and help streamline administration and logistics for the license vendors.

Software is utilized in more than user applications. It is also embedded in complex machine and plant equipment controls. Single machines can run many different software elements, from the operating system to control software or individual applications, often from multiple vendors at the same time. Some applications allow features to be activated at a later date such as Features-on-Demand. Not every machine has Internet access. How can their software licenses be activated? CodeMeter License Central has an offline solution for such scenarios.

What is CodeMeter License Central?

CodeMeter License Central is a fully featured, highly scalable, web-services based license management system designed to integrate with your existing business processes. CodeMeter License Central creates, delivers, activates, updates, and manages your licenses. It provides data mining, analytics, and reporting capabilities to ensure you are fully monetizing your software. It easily integrates with your ERP, CRM, and/or homegrown solutions utilizing industry standards such as SOAP and JSON. You have the option of hosting your instance of License Central or using a cloud-based version, operated by Wibu-Systems Operating Services (WOPS).



The Selling Process

The customer buys an application that requires a license via an online shop or by traditional methods. The software vendor delivers the software to the user either by download or in a physical form. The user pays for his or her purchase, but he or she still needs the license to run the software. Robust licensing rights management requires far more than a simple code printed on a CD slipcover. Such simplistic licensing numbers offer no real protection against illegal copying. Rights management using CodeMeter License Central combines security with flexibility. With License Central, the software vendor generates a ticket (serial number, representing the license entitlement), which is used by the user to retrieve the acquired license. In the case of an online purchase, the ticket is delivered automatically from the online shop via email to the user. If the software was purchased via the retail channel, the ticket is already printed on the CD slipcover. It looks like a simple license code, but it is checked during the online activation process against CodeMeter License Central and cannot be used multiple times. The mechanism is transparent for the customer; getting a legitimate license could not be easier.

From Ticket to License

CodeMeter License Central receives notification of the sale of an application and generates a ticket. This request can be automated by the online shop, an ERP system, or any other retail software. When it comes to retail packages, tickets are generated in beforehand during the mass production of CDs. Manual requests are also possible. CodeMeter License Central records the sold items, generates licenses for all items requiring a license, and stores these into the data "behind" the ticket. The ticket represents the amalgamation of licenses that have been sold. In the case of bulk orders, this ticket system makes life easier for the license administrator. Licenses can also be stored on single tickets. CodeMeter License Central generates the completed ticket to the software vendor for delivery to the user. The user can retrieve the ticket via the software vendor's web portal, or the ticket can be dispensed to the user by e-mail.



Two Container Options: Soft License or Dongle



In the CodeMeter system, licenses are stored in containers (CmContainer). The two container options are hardware (CmDongles) or software (CmActLicense files). The advantage of the CmActLicense file is that the license can be delivered with the software upon purchase and be activated immediately. The advantage of the CmDongle is license portability as the user can move the license from one PC to another.

CmDongle

One of the options the software vendor has is the capability of storing the license(s) in a CmDongle. The CmDongle can be delivered with the license(s) installed, or delivered empty with the license(s) to be transmitted at a later time. Both scenarios can be easily managed with CodeMeter License Central. When your client needs a license or an update to an existing license you can deliver the license file via email or have the client retrieve the license via the CodeMeter Web Portal. You can also programmatically automate the process of license delivery so that it is transparent to the user.

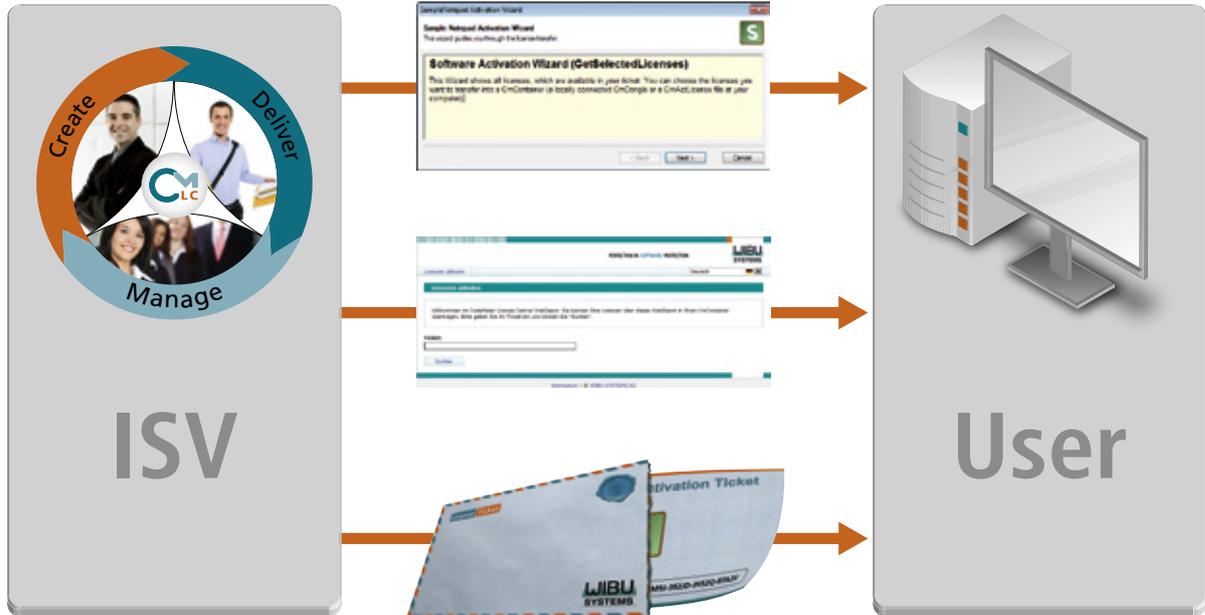
Another advantage of the CodeMeter solution is that one CmDongle can store licenses from multiple software vendors. A customer who already utilizes a CmDongle does not need to buy another one if the additionally purchased software from another ISV is also utilizing CodeMeter.

CmActLicense

This software option provides the ability for the software vendor to deliver a ticket to the user for the software license activation process. Once the ticket (entitlement) is delivered, the user starts the activation process, which binds the license to a target PC or device. This activation process can be fully automated with Internet access; in cases where no Internet is available for the target PC, a manual file transfer or even a telephone call can be utilized for the activation process.

Transferring the Licenses into the License Container

Both protection systems require the license for the purchased software to be transferred into a license container for activation. This transfer process is identical for both the dongle and soft license options when CodeMeter License Central is used. An activation wizard is included to guide through one of the three options: online activation, activation by web portal, or offline activation.



Online Activation

When the customer wishes to start using the installed software, the software prompts for a valid license. If there is no fitting license, an activation wizard is started automatically by the software. The wizard is adjusted to match the design preferences of its vendor. The following screen shows the activation wizard for a Sample Notepad application. The activation wizard establishes a connection with CodeMeter License Central and guides the user through the activation process. CodeMeter License Central can either be hosted in the Wibu-Systems Cloud or located on a physical server of the software vendor.

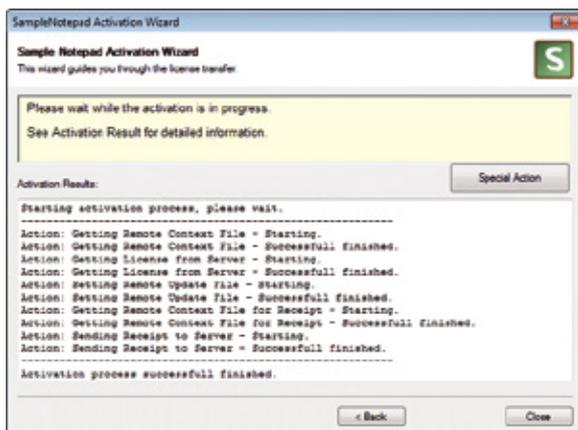
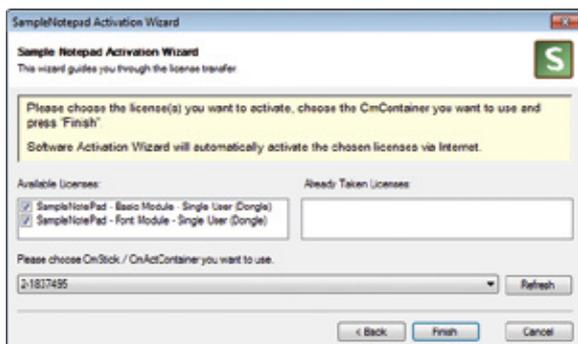
CodeMeter License Central stores a record of all the customer's licenses. Each ticket can hold multiple licenses, all of which are displayed by the activation wizard.

The user is first asked to enter his or her ticket number. After a valid ticket number has been entered, the connection with CodeMeter License Central is established by the activation wizard.

The next window displays all licenses acquired by the user. The activation wizard can distinguish directly between delivered licenses that have already been transferred to a CmDongle or CmActLicense file and the licenses remaining for a transfer into a license container. In the example above, the user has acquired single user licenses for the Sample NotePad Basic Module and the Sample NotePad Font Module. Both licenses are still available and are selected for activation by the user.

The selection menu at the bottom of the window allows the user to choose the destination for the license. After a refresh, the wizard will show all available license containers in the pull-down menu. In this case, the user wishes to transfer both licenses to the CmDongle with the serial number 2-1837495. The user confirms that choice by clicking the Finish button.

This starts the activation process, in which CodeMeter License Central and the CmDongle communicate securely to verify the identity of the CmDongle and transfer the valid license into the chosen container. The activation wizard notifies the user when the activation process has been successful. In this case, the user has activated both purchased modules and is free to use the software. If only one of the two licenses had been activated, the user could work only with that module. The other module would remain ready for activation via the same ticket number. The user can see all available modules awaiting activation via the activation wizard.



Activation by Web Portal

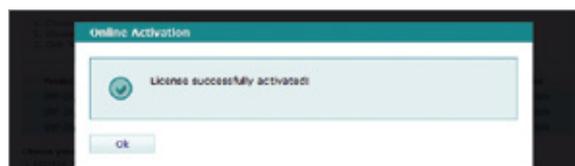
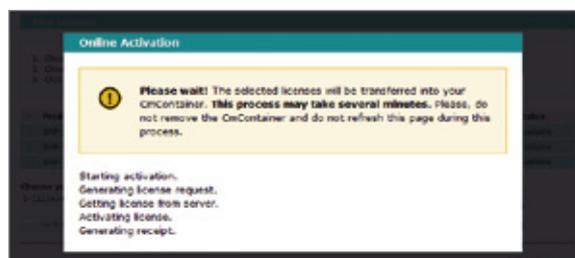
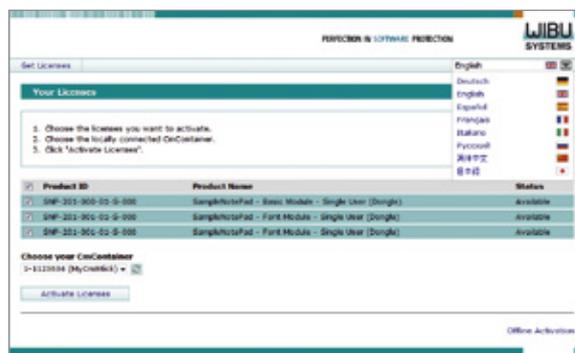
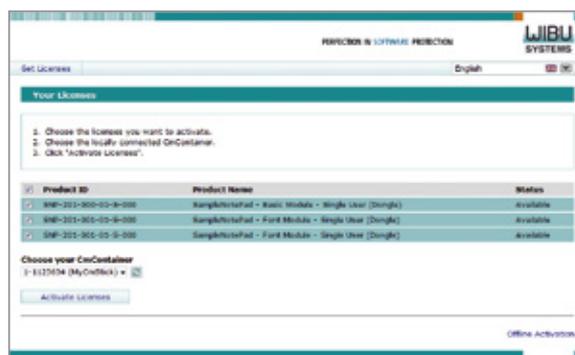
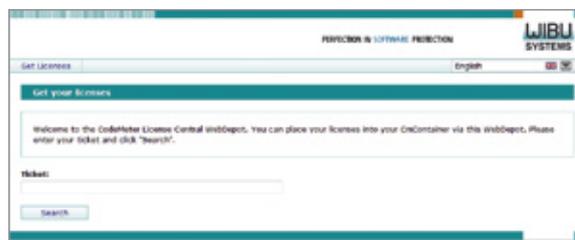
With automated online activation, the activation process is initiated by the software application. An alternative option is to use a web portal for the activation. Instead of an activation wizard to establish a connection with the activation server, the user is required to contact the software vendors' web portal which then communicates with the CodeMeter License Central. The user would visit the web portal page to begin the activation process. After the user has entered the correct ticket number, the activation process proceeds as in the case of online activation.

The portal details which product licenses (Item ID) are available for activation. In this case, three licenses are available. Their "available" status indicates that the products' Sample NotePad Basic Module, Font Module, and HexView Module are ready for activation. As in the case of online activation, the user can select the preferred license container (CmContainer). In this case, the container is an SD-Card dongle with the ID "2-1837495".

The user can choose the language for the portal. Currently, German, English, Spanish, French, Italian, Russian, Chinese, and Japanese localizations are available.

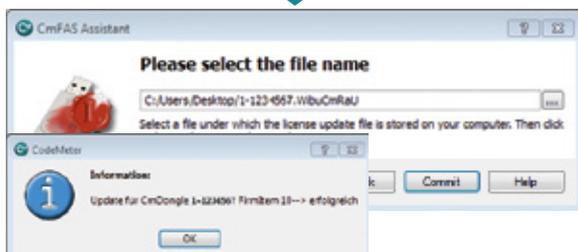
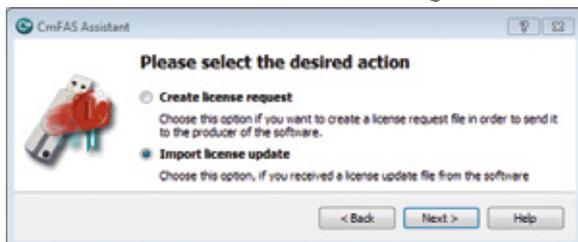
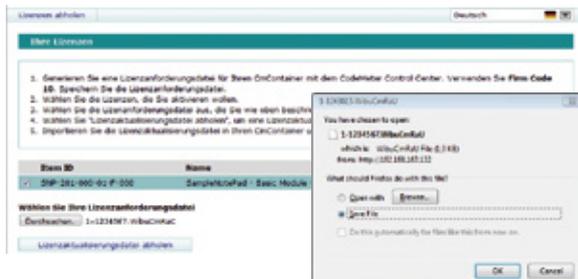
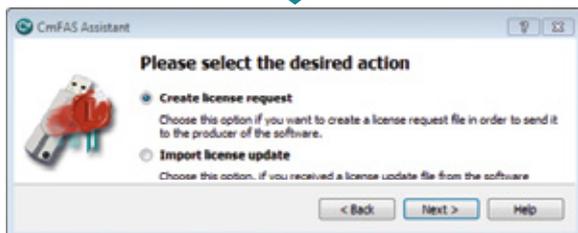
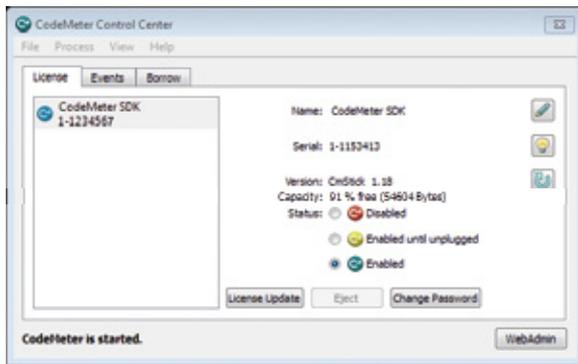
The activation process begins when the user has selected both the modules to be activated and the license container.

The portal notifies the user when the license for the software has been successfully transferred into the CmContainer - on the computer or dongle.



Offline Activation

Users without Internet access have the option of transferring the activation code for their software into their license container by offline activation. This option is used for workstations with restricted Internet access rights or workstations or other devices without any Internet access.



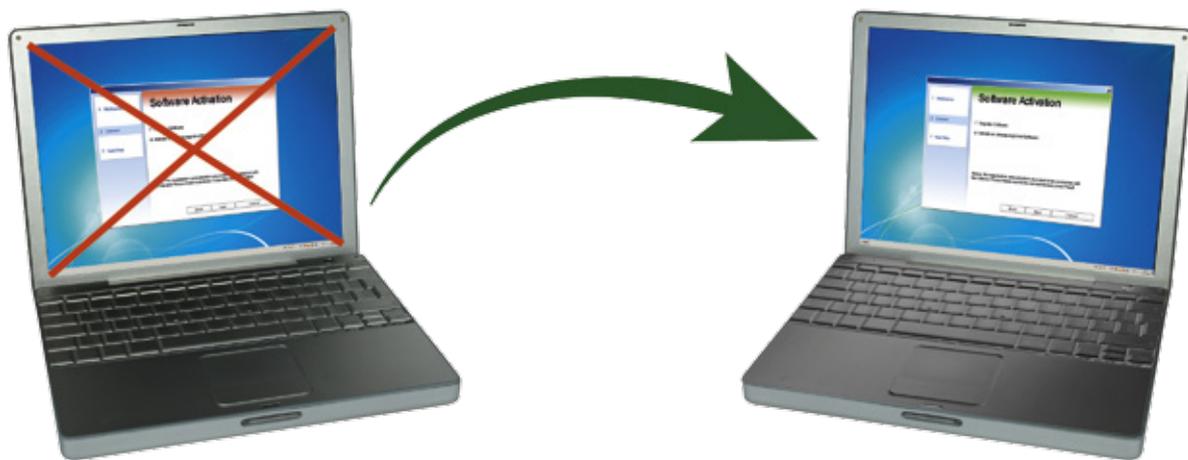
Transferring and Returning Licenses

CodeMeter License Central links licenses with uniquely identified license containers and monitors the status of each license. These capabilities enable CodeMeter License Central to recover licenses and transfer them to other containers. When a computer is replaced by a newer model, the user would, for instance, wish to transfer software licenses from the old computer to its replacement. The old computer is retired or reallocated to other purposes. To transfer licenses to a new container, the user accesses the web portal with the old computer. CodeMeter License Central deletes the license from the license container on the old computer and returns its status back to “available”. The user can then activate the newly available license for the new computer.

Lost Dongles

The software vendor has several options for dealing with lost CmDongles. Since each CmDongle has a unique identity, CodeMeter License Central can blacklist it in the case of theft or loss. The user gets a replacement license for the lost CmDongle and the lost licenses. CodeMeter License Central now adds the lost CmDongle to a blacklist. There are different options to check against this blacklist. This is automatically done when a user activates new licenses, the software optionally periodically checks the blacklist online or the blacklist is distributed offline with the new update of the software. When a blacklisted CmDongle is detected, all licenses of this software vendor that were stored in this specific unit will be deactivated and the dongle becomes worthless to the thief. The software vendor can decide to offer the legitimate user a new activation of the old license free of charge on a goodwill basis. In return, the vendor has the reassurance that the lost or stolen dongle can be taken from circulation sooner rather than later.

Malfunctioning Computers



There can be cases in which the license cannot be returned from its license container to CodeMeter License Central, e.g. when a technical malfunction stops the computer prematurely from working. The goodwill policy of the software vendor decides whether the license can be transferred to a new computer in such cases. The old license on the broken hardware would be blacklisted in the same manner as a lost CmDongle. CodeMeter License Central allows a choice of goodwill options for this purpose. With the right policy in place, the user could retrieve a replacement license from CodeMeter License Central without any further communication with the vendor. This stops the vendor's user support team from having to handle such requests while still retaining full control over the goodwill policy. If the policy states that only two replacement licenses will be offered on a goodwill basis, a third attempt would fail. The vendor can track how often each customer uses these goodwill options. If there is any misuse of such requests, the vendor can respond and agree on a customer-specific policy.

Summary

Licenses can be activated via three channels. The activation process is generally identical for all three options:

- Online activation from within the software application
- Online activation by web portal
- Offline activation by web portal

The license is stored in a dedicated license container. This container is maintained either on the computer in question or a dongle. The activation process is identical for all protection concepts:

- Dongle
- Soft license

A single dongle can be used for activating licenses from different software vendors or for different software packages. The only precondition is that these packages are protected by CodeMeter.

CodeMeter License Central can activate licenses directly over the Internet or through a web portal. The layout of the web portal and activation wizard can be customized to follow the corporate design rules of the software vendor. This extends to the user interface, the displayed information, and the general visual design. CodeMeter License Central operates beneath that shell; its functionality is designed to fit in with the chosen visuals of the software vendor and his user portal.

The web portal option allows software vendors to offer additional services in their user portals, hosted by the vendor or in the cloud. The current choice of languages covers most international markets; additional localization options can be included by the software vendor. The web portal allows tickets to be delivered and licenses to be activated and managed. Licenses can also be transferred to other computers or dongles. Blacklisting procedures are in place on the central activation platform to help handle lost dongles or malfunctioning hardware on a goodwill basis. CodeMeter License Central can even manage individually specific goodwill policies.

CodeMeter License Central offers an automatic solution for all licensing needs. The license vendor retains full control over the licenses and saves substantial logistics and process costs by using CodeMeter License Central.



Author:

Rüdiger Kügler's first encounter with software development occurred early on during his studies of physics in the late 80's. Right then he started programming applications in FORTRAN, C and Assembler. Once he graduated from university, he worked as Project Manager for different multimedia companies, and fell in love with Borland Delphi. In 1996, when most of today's Java developers knew Java just as something to drink, he used to let ad banners fly across web pages through own generated applets. He strongly opposed the use of hacks and cheats from the Internet. „You have to do it yourself“, that's actually his motto. In Rüdiger's opinion, .NET is the natural extended development of VCL. He just regrets that reverse engineering is now available to everybody, in contrast to the good old cracking on Assembler level. Since 2003 he works as Security Expert for Wibu-Systems and supports software developers in implementing copy protection and security measures against reverse engineering.



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WIBU-SYSTEMS AG (WIBU®) was founded in 1989 by Oliver Winzenried and Marcellus Buchheit. Since its debut Wibu-Systems has been revolutionizing the international scene with security technological innovations. The product portfolio offers digital asset, intellectual property and integrity protection against piracy, reverse-engineering and code tampering. The broad and award-winning range of Wibu-Systems solutions is unique and covers application fields from computers to mobile, from embedded automation to cloud computing, from SaaS to virtualized models.

Through its motto "Perfection in Protection", Wibu-Systems has enabled new business models; software-powered businesses, whether in the consumer, corporate or embedded system realm, can monetize their investments through license orchestration schemes.

Headquartered in Karlsruhe, Germany, Wibu-Systems holds subsidiaries in Seattle, USA, as well as in Shanghai and Beijing, China; the company has also sales offices in Belgium, France, the Netherlands, Portugal, Spain, the United Kingdom and a capillary world distribution network.

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PERFECTION IN SOFTWARE PROTECTION
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