

The slide features a dark teal header with the text "CodeMeter™ Technology". The main content area is white with a light blue background image showing various hardware devices like USB sticks and a CD-ROM. The text "CodeMeter™" is prominently displayed in a large, bold, teal font, with "rikey" written in smaller text below it. Below this, the text "Software Protection and Digital Rights Management" is written in a smaller teal font. To the right, the name "Ruediger Kuegler" is listed, followed by "Director Sales" and "WIBU-SYSTEMS AG". At the bottom right, the email address "ruediger.kuegler@wibu.com" is provided. In the bottom left corner, there is a small logo for "WIBU SYSTEMS". The bottom right corner contains the text "Page 1 April 2003".

CodeMeter™ Technology

CodeMeter™
rikey

Software Protection and
Digital Rights Management

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WIBU SYSTEMS

CodeMeter™: New Digital Rights Management Technology
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Based on their huge experience in software protection since 1989, WIBU-SYSTEMS has designed the DRM (Digital Rights Management) system CodeMeter™.

CodeMeter™ enables software and content vendors to use new and flexible license and billing models for their software products and digital content. It offers an infrastructure for online licence transactions (CM-Talk) and a hardware for copy protection (CM-Stick).

Compared to “classic hardware items”, the user will buy the CM-Stick independent from the software or the content. The vendor has no hardware costs. The user use the CM-Stick for multiple purposes: for storing licences from different vendors, for storing private and secret keys as well as other security issues.

Due to the independency from the software purchase, CodeMeter™ could be used for upscale software as well as for low-priced computer games or content.

This presentation gives an overview of the motivation and design criteria of CodeMeter™ and shows the advantages for CodeMeter™ participants.

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Initial situation

- Software Piracy causes **direct and indirect losses** to the vendor
- Software based copy protection is weak
- PC-Binding makes **licence transfers** nearly **impossible** and causes maintenance costs
- Software can not be returned securely
- Upscale software wouldn't sell for "one-time-users"
 - No available secure **Pay-Per-Use** settlement
 - Time-limited (renting or leasing) versions are often hacked



The software piracy study of the BSA shows, that software piracy causes billions of dollar losses to software vendors all over the world. Depending on the target market, a piracy rate of more than 90% is possible. So copy and licence protection for software is needed strongly.

A pure software based copy protection (licence numbers) is weak and can be hacked with less effort. Via the Internet licence numbers can be duplicated nearly limitless.

A PC-Binding (activation code for a special PC) causes a lot of maintenance problems due to hardware exchange of the PC. A transfer of a licence to an other PC or flexible floating license models can not be realised.

If a customer wants to return a bought software product (German laws admits these for private customers), the software vendor can not be sure, that the customer actually deletes all copies.

A lot of small companies would need to use expensive software just for a few times. But due to the software is too expensive for them, they decide to solve their problems in other ways. So these companies lose a lot of time and money by not using this software. Otherwise the software vendor can not sell this product to this customer. Both parties could win, if a Pay-Per-Use or a leasing or renting version would be available. Due to the above mentioned copy protection issues and a missing measurement and settlement of software use, such versions are not available yet.

Very often strong copy protection is poorly integrated into the software. So it is very easy for a hacker to bypass this protection.

Resulting requirements

- **Secure** software protection
 - Strong encryption
- **Easy-To-Use** software protection
 - Easy integration for the vendor
 - Easy installation for the customer
- **Mobile and offline** software protection
- **Flexible** software protection
 - New business models as **Pay-Per-Use, Renting, Leasing**
 - Floating licenses



So a good copy and licence protection for software or content must be a very strong and secure protection, based on encryption technologies.

Regardless it must be Easy-To-Use for the vendor during the implementation and Easy-To-Use for the user of the software or the content. Although the implementation must be easy for the vendor, it also must be strong against attacks of hackers. The best protection is worthless if the implementation is weak.

The protection solution should also be a mobile and offline solution, so that a user can carry a licence with him to an other PC, without having access to the Internet. These may occur if a user has more than one workstation and uses the software only at one PC the same time or if the user changes his complete hardware.

For the realisation of licence models it is required that the protection supports flexible floating and network licence models. Features as a secure settlement for new business models as Pay-Per-Use, renting or leasing are required. Also licence transfer to other users or licence return to the vendor should be possible.

Method of resolution

- Infrastructure:
 - **CM-Talk**
 - Provides online licence transfer
- Hardware:
 - **CM-Stick**
 - Best protection
 - Metering of use
 - **Independent from the vendor**
 - Stores licences of many products (>1,000)



The image shows the CodeMeter logo, which consists of a teal 'C' and 'M' forming a stylized 'CodeMeter' text. Below the logo is a blue USB stick (CM-Stick) with a silver cap.

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CodeMeter™ fulfils the above mentioned requirements. It consists of the infrastructure for online licence transfer CM-Talk and the USB hardware CM-Stick.

The CM-Stick offers best protection due to strong encryption technologies. It uses AES (Advanced Encryption Standard) for symmetric and ECC (Elliptic Curves Cryptography) for asymmetric encryption.

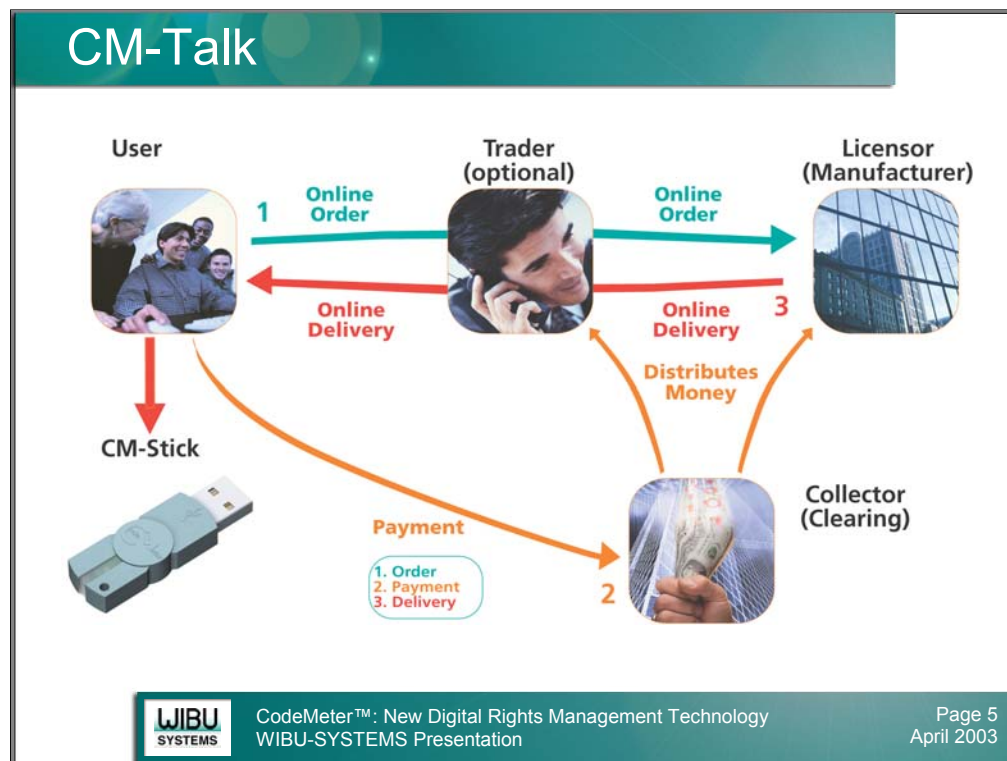
Within the CM-Stick many licences can be stored (more than 1,000). The CM-Stick is independent from the vendor, so many vendors could share one CM-Stick. The user will buy this hardware by himself at a super market, computer discounter or a gasoline station.

The installation of the CM-Stick at the user's site is very simple. Also the integration into the software is easy because of comprehensive implementation tools and support by the WIBU-SYSTEMS consulting team.

The user can take along the CM-Stick with all the licences stored anytime and everywhere. Internet access is only needed if the user wants to buy new licences.

New and flexible business models will be supported by CodeMeter™. So there are activation and expiration dates of licences stored in the CM-Stick. Due to time servers and time certificates these dates are protected against manipulation. The CM-Stick can also store prepaid usage credits for software use. So a secure Pay-Per-Use can be realised. If these credits are used up, the user can buy more usage credits via CM-Talk.

Also the return of a licence is an option in the CM-Talk. So a user can return a licence (if the vendor allows it) and the vendor can be sure that the user can not use his software any further.



The infrastructure is called CM-Talk. In this protocol there are four different roles:

- The software user, who wants to buy a software licence, usage credits or content
- The licensor, who wants to sell his software or content
- The collector, who does the payment clearing
- One or more traders (optional) who want to act as a reseller for the software or the content.

The next steps describe the licence transfer to the software user:

- Typically the software user just owns his CM-Stick. If he wants to buy a licence he goes to an online store (direct at the licensor's website or an online reseller) and places an order. Therefore CM-Talk supports price establishment features.
- In the second step the collector collects the money from the software user and distributes it to all involved parties (less his own charges).
- After the clearing the licensor generates the licence and updates it into the user's CM-Stick via the Internet in a secure way.

The user can download the software or the content independent from the licence transfer. In some cases the software is just installed at his PC (he reorders usage credits for a Pay-Per-Use version).

There are a lot of possible scenarios. Traders could appear optionally, a licensor could act as licensor, collector and trader himself. It is also possible that a user acts as a collector, too.

CM-Stick

- **One Solution** for
 - Many vendors
 - Many products (>1,000)
- Metering of use
- **Avoid binding to specific PC**
- Stores
 - Passwords
 - Secret data
- Secure login / file encryption



The image shows three USB-like sticks (CM-Sticks) in different colors: orange, green, and blue. Each stick has a silver-colored metal tip and a grey plastic body with a circular logo on the top surface.

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The CM-Stick stores more than 1,000 licences from different vendors. It isn't assigned to a specific vendor. The user will buy a CM-Stick once for himself and can get all the licences from different vendors online via the CM-Talk protocol transferred into his own CM-Stick. So there are no hardware costs for a software or content vendor, who wants to use CodeMeter™.

The CM-Stick enables the vendor to meter the use of the software. He can sell Pay-Per-Use, leasing and renting versions with full functionality on a secure way.

The CM-Stick avoids a binding to a specific hardware. So if the user changes his hardware he just has to plug-in the stick and install the software. He doesn't need new licence codes.

Additionally the user can store passwords and secret data (private keys, secret keys, TANs) in his CM-Stick. There are a lot of security applications which come with the CM-Stick for free to the user. There is a secure login to his PC and a file encryption of all data on his PC. So nobody else can then access his PC and his data.

The CM-Stick will be delivered with a protective cover with different colour and printing options.

Roles In The CM-Scenario

- **CM-Participants**
 - Licensor
 - User
 - Trader / Collector
- **CM-Reseller**
 - Resells the CM-Stick / CM-Bundle
- **CM-Alliance-Partner**
 - Delivers software for bundling with the CM-Stick



As seen above, there are 4 different roles in the CM-Talk scenario. But there are two more types of roles in the whole CM-Scenario.

At first there is the CM-Reseller. This could be a super market, a gasoline station or a computer discounter. These resellers sell the CM-Stick to the user. WIBU-SYSTEMS offers a very attractive reseller program to the CM-Resellers. Also a hardware manufacturer can act as CM-Reseller.

To offer a comprehensive product to the user, the CM-Stick comes in bundle with a huge software package. This software is made by the CM-Alliance-Partners. There are different options for these software:

- 1) OEM version: a light version with limited functionality, but no expiration date.
- 2) Try&Buy, leasing or renting version: a full functionally version with expiration date. Due to the strong software protection of CodeMeter™ there is a secure expiration date. After this date the user has to buy the software or renew the licence.
- 3) Pay-Per-Use version: a full functionally version with prepaid usage credits for use, stored in the CM-Stick. The number of credits per functionality is defined by the vendor. The user can use it until the usage credits are used up. Then he has to buy new usage credits or a unlimited version.
- 4) Unlimited “Full” version: a version for unlimited use

The CM-Alliance-Partner gets a comprehensive support package for technical and business issues.

Advantages for Alliance-Partners

- Combined marketing activities
- New sales channels, new markets
- Profitable **revenue-sharing**
- New business models
- **Outcome revenue**
- Best offer for own use of CodeMeter™
- Secure software protection
- Attendance to an innovative DRM-system
- Technical support **free of charge**



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Software of the CM-Alliance-Partner will be sold by WIBU-SYSTEMS as bundle with the CM-Stick via CM-Resellers. So the CM-Alliance-Partner can use this bundle for advertising of his own products.

With this bundle WIBU-SYSTEMS offers a new sales channel to the CM-Alliance-Partner. WIBU-SYSTEMS today sells products all over the world, working strongly together with 19 distributors. CM-Alliance-Partners takes advantages from this reselling network.

Depending on the kind of software version for the bundle, WIBU-SYSTEMS offers profitable revenue sharing models for the CM-Alliance-Partners.

The CM-Alliance-Partner gets the opportunity to realise new business models as Pay-Per-Use, leasing or renting in a very secure and easy way. So the CM-Alliance-Partner can bundle a Pay-Per-Use version with a number of usage credits for uses or a renting version with the CM-Stick. If the number of credits are used up or the date is expired the user has to buy more usage credits or to renew the licence. So the CM-Alliance-Partner will earn outcome revenue.

If the CM-Alliance-Partner wants to use CodeMeter™ beyond the bundling activities, he will get best terms for installation and transaction fees.

The CM-Alliance-Partner gets the opportunity to use a secure software protection for his own products and to take part at the innovative DRM-system CodeMeter™. CodeMeter™ was adapted and evaluated by 6 European companies within the EU project PAIDFAIR (IST-2000-29616). In the PAIDFAIR project different applications as electronic licence distribution, IP content distribution, authentication and multimedia home platform were realised.

WIBU-SYSTEMS offers technical support and comprehensive tools (automatically encryption) for free to CM-Alliance-Partners for strong integration of the protection into their products.

Advantages for licensors

- Avoids use of pirate copies
- **No cost for protection hardware**
- No physical shipping of protection device
- Automatically online licence updates
- ERP integration
- Support of existing and **new flexible licence** models as Pay-Per-Use or renting
- No risk licence return
- From **low-priced** up to **expensive software**



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CodeMeter™ offers best software protection, using state-of-the-art encryption technologies. So the licensor avoids use of pirate of copies.

Due to its independence from the vendor the user buys the CM-Stick in a supermarket. So there are no hardware and shipping costs for the licensor, using CodeMeter™ as software protection.

The licensor gets the opportunity to transfer licences automatically online for a small transaction fee. The fee depends on the number of transactions and the value of each transaction. Together with the ERP integration option, the automation reduces process costs of the licensor. This just in time online availability of licences will increase customer satisfaction.

CodeMeter™ support all existing licences models, as single user licence, network licences or concurrent licences. Also new models as secure renting, leasing or Pay-Per-Use become practicable.

Due to a safely licence return functionality – the licensor knows that the licence has been deleted at the users CM-Stick – the licensor can increase customer satisfaction also by offering a money back guarantee.

CodeMeter™ can be used for protection of expensive software as well as protection of low-priced software or content, because there are no hardware costs for the licensor.

Advantages for traders / collectors

- **Enhancement** of their services
 - Electronic Software / Licence Distribution
 - Pay-Per-Use Licences
 - Renting / Leasing Licences
- Increase of customers satisfaction
- **CM-Talk integrates complete channel**
- Fast Return-On-Invest
- **Trust** and **privacy** between all involved parties is guaranteed



Traders and collectors can enhance his service offerings. CodeMeter™ provides them the opportunity to offer secure Electronic Software Distribution (ESD) and secure Electronic Licence Distribution (ELD) as well as renting or leasing licences. This will increase the satisfaction of the customer.

CM-Talk integrates the whole channel into to sales and delivery process. So the existing sales channel of the vendor is not excluded from the business in the future.

Due to easy and fast integration of the CM-Talk into an existing eCommerce architecture the trader or collector gets fast Return-On-Invest. The trader and the collector will get a comprehensive support for system integration.

Due to public key encryption trust and privacy is guaranteed for all involved parties.

Advantages for users

- One CM-Stick for all licences
- **Portable** licences and **offline** usage
- Licences anytime and everywhere
- **Anonymity and privacy**
- Backup of licences and usage credits
- Fair prices due to new licence models
- Money back guarantee
- Comprehensive CM-Bundle
- **Personal security benefits**



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The user can use one CM-Stick for all licences from different vendors. He don't has to plug a lot of different devices into his PC.

The CM-Stick is a portable and a offline solution. So the user just has to go to the internet once, to get the licence, but then he can work offline and use the licence at each PC he wants in the way the vendor allows it.

Due to the infrastructure CM-Talk the user can get licences everywhere and anytime. He just needs a PC with internet access.

The CM-Stick guarantees anonymity and privacy of the user. The licence is bonded to the CM-Stick.

Licences and usage credits can reach a high value. Therefore CodeMeter™ offers a secure (signed with time certificate) backup of the licences and usage credits. Depending on the vendors policy, the user can restore a backup of his licences and credits within a determined timeframe.

Due to the availability of security for new licence models, (the user can get expensive software as Pay-Per-Use version) the user will benefit from lower prices. Also a secure money back guarantee can be offered by the vendor.

CodeMeter™ will be delivered with a comprehensive software bundle, dealing with security issues. Functionality as secure password storage, data encryption, secure access control gives great benefits to the user.

WIBU-SYSTEMS at a glance

- Founded 1989 from Oliver Winzenried and Marcellus Buchheit in Germany
 - Since 1991 GmbH, since 1995 AG (public)
- More than **2,000** Customers **worldwide**
 - Offices in USA and China
 - Distribution in 19 additional countries



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WIBU-SYSTEMS was founded in 1989 in Karlsruhe by Oliver Winzenried and Marcellus Buchheit with the aim to develop an easy to use and effective copy protection system.

The company is today known as a synonym for one of the most advanced software protection developers and suppliers, network license management providers and Internet and information security answers.

It develops innovative products in order to meet the customer's requirements.

Extensive protection hardware solutions for PC, Macintosh and work stations used both for single stations or for protecting a complete network are available.

The headquarters of WIBU-SYSTEMS is situated in the middle of the technological heart of Germany, Karlsruhe. WIBU-SYSTEMS, as a growth-oriented firm, puts the satisfaction of its customers as its highest priority.

Offices in Seattle, USA and Shanghai, China, as well as distributors around the world guarantee continuing relationships with customers and lasting success as a company.

Today, WIBU-SYSTEMS is the only software protection provider in Germany with its own research, development, production and sales departments under one roof.

WIBU-SYSTEMS belongs to the three biggest suppliers in the market of software and document protection. More than 500,000 users worldwide deploy WIBU-KEY successfully.

Since 1997 WIBU-SYSTEMS has been an EN ISO 9001:2000 certified firm and is a member in standardization committees such as PCMCIA, USB Implementers Forum, or SIIA.



The slide features a dark blue header with the text "WIBU-SYSTEMS products" in white. Below this is a large light blue area with the headline "The Key is in Your Hands!" in white. Underneath the headline are four vertical panels, each representing a product: "WIBU-KEY Software Protection", "SmartShelter Document Protection", "SecuriKey Access Control", and "CodeMeter Digital Rights Management". In the center of these panels are images of a blue USB key, a silver USB key, and a blue USB key with a keychain. At the bottom left is the WIBU SYSTEMS logo. At the bottom center, it says "CodeMeter™: New Digital Rights Management Technology WIBU-SYSTEMS Presentation". At the bottom right, it says "Page 13 April 2003".

WIBU-KEY

WIBU-KEY is the most technically advanced software protection and license management system currently available. It is used successfully by more than 500,000 users worldwide. The WIBU-KEY software protection system is based on genuine encryption using hardware. The objective is to protect programs and data from unauthorized use.

WIBU-KEY consists of tools for software protection, driver software and a hardware component: the WIBU-BOX.

SmartShelter

WIBU-KEY SmartShelter Document Protection is ideal for companies that regularly provide their customers with information from a subscription-based business model. In addition, this system is suitable for those who want to distribute confidential information only to certain target groups. With SmartShelter, all HTML documents, including text, graphics, sounds and JavaScript, can be encrypted. The protection is realized through encryption with the WIBU-BOX.

SecuriKey

SecuriKey is "The secure authentication system".

Authentication systems are no longer for only large corporations, institutions and government agencies. With the introduction of the SecuriKey Authentication System, any company that is concerned about protecting itself against unauthorized computer use can easily get some peace of mind. SecuriKey provides a secure login to the computer without the cost of a PKI.

Availability

CodeMeter™

Available in Q2.2003



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CodeMeter™ will be available in Q2.2003. The user price for a CM-Stick will be between 49 and 69 \$, depending on the included software package.

Development Kits for CM-Alliance-Partners will be available in April 2003.

A demo system is available at the WIBU-SYSTEMS facility in Karlsruhe.

For further information please contact:

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