THE WIBU-MAGAZINE

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Licensing-as-a-Service – Fast, Flexible, and Future-Proof

Highlights

- From Chaos to Control: Mastering Software Licensing
- From Workshop to Workflow: Building Effective Licensing Models
- CodeMeter License Central 5.1: Cloud-Agnostic, Scalable, and Future-Ready

WIBU SYSTEMS

Content

Dear Clients and Partners

Only a few years ago, globalization seemed unstoppable. Today, the picture has changed: the world economy is no longer a single, unified system, but a **multi-polar landscape** shaped by regional interests, diverging regulations, and shifting alliances. For internationally active companies, this transformation creates uncertainties – but above all, new opportunities.

In this context, **flexibility becomes the defining strategic asset**. Technology choices, business models, and partnerships must be built for a future where resilience, sovereignty, and adaptability outweigh pure efficiency. This is precisely where Wibu-Systems positions itself.

The technologies featured in this magazine – **post-quantum cryptography, cloud-agnostic deployment, Kubernetes orchestration**, and **secure edge architectures** – reflect the need for resilient digital foundations. Security is not an add-on; it is the precondition for trust in a fragmented world. Without strong cryptography and licensing, no digital supply chain, industrial platform, or AI-driven system can be truly reliable.

Yet security alone does not answer the economic question. To thrive in a multi-polar world, **business models must adapt to regional realities**. In high-income markets, customers expect premium services, enterprise integration, and continuity. In other regions, affordability and accessibility decide success. The answer lies in licensing models that balance both worlds: opening new markets without undermining established ones, and protecting IP while enabling fair expansion.

"The future will not be decided by who has the strongest technology alone, but by who can adapt it to different regional realities without losing trust or sovereignty."

Licensing is not just a technical feature, but a strategic lever for competitiveness. **Flexible entitlements, cloud-native architectures**, and **containerized deployments** give our customers the tools to monetize software wherever they operate, with models that fit local needs.

The digital economy is no longer global in the traditional sense. It is now increasingly regional, diverse, and competitive. **With CodeMeter at its core**, Wibu-Systems helps companies navigate this complexity – securing innovations, complying with regional rules, and unlocking growth in every corner of the world.

Best regards,
Oliver Winzenried
CEO

Reinvention as the Key to Resilience

With this 50th issue of our corporate magazine, we look back on decades of progress – but even more importantly, we look forward. The business world is shifting once again. While many suggest globalization is fading, we view it as transforming. Trade is evolving, rediscovering its traditional roots and adopting new, digital means. As we expand further East and reinforce our presence in new regions, we are reminded that resilience comes not from resisting change, but from reinventing ourselves to meet it. The essence remains the same: value is created when local expertise is shared, and global networks thrive on fairness, complementarity, and mutual enrichment.

Reinvention also means practicing what we preach. For years, we have encouraged our customers to design flexible, future-proof licensing schemes. Now, we are putting our principles into practice by introducing broader models and pricing options. This creates the freedom to tailor offerings to diverse needs and markets – proving that innovation in business models is as critical as innovation in technology.

Technology itself is facing disruption. Post-Quantum Cryptography (PQC) will alter the foundations of security, raising new questions even for long-standing leaders. We have not stood idle: by teaming up with brilliant academic minds and trusted industry partners, we are preparing a clear path for our customers to transition into the quantum age without disruption. Reinvention in this field means transforming potential risks into opportunities.

But features alone are not enough; usability matters just as much. Reinventing our user experience is therefore central to our roadmap. Licensing and protection must be as intuitive as they are secure, ensuring that powerful technology empowers rather than complicates.

The regulatory environment is also reshaping our industry. Europe is setting ambitious frameworks that will define the digital landscape for years to come: the Cyber Resilience Act (CRA) with its five-year update cycles and stricter certification for connected products; the AI Act, setting boundaries for trustworthy and transparent AI; the GDPR, safeguarding personal data with uncompromising requirements; the Medical Device Regulation (MDR), freezing AI models once certified; eIDAS 2.0, enabling European digital identity and the business wallet for secure cross-border trust; the Cybersecurity Act, strengthening the certification framework for digital products; and the Ecodesign for Sustainable Products Regulation (ESPR), driving transparency across supply chains. While some see these frameworks as compliance challenges, we prefer to see them as catalysts for excellence. Reinvention here means building bridges between regulation and competitiveness, helping our customers not only comply but seize the opportunities that come with higher standards.

This philosophy is embodied in our R&D work. Two flagship projects are setting new standards: **ResiKomp** develops digital competence depots to strengthen resilience in value networks. With Wibu-Systems' Chain of Trust as a foundation, companies will be able to share critical knowledge securely and respond to crises more effectively. **GIMLI**, in turn, extends the reach of our award-winning AxProtector CTP by protecting programs compiled outside LLVM. By lifting machine code into LLVM-IR, securing it, and lowering it back seamlessly, we open new possibilities for software developers worldwide.

In all these areas – global expansion, business models, quantum readiness, usability, regulatory alignment, and research – the unifying theme is the same: **reinvention**. It is the way to resilience in an uncertain world.

For over 35 years, Wibu-Systems has led by focusing on protection, licensing, and security. The next years will demand even more agility, more creativity, and more collaboration. Innovation is not just a project in our labs; it is the essence of how we think, act, and partner with you. That is how we will continue to thrive – and how we will help our customers do the same.

Learn more about our latest R&D projects

ResiKomp

GIMLI

Explore the bold perspectives of the 2025 roundtable:

Securing the Quantum Future: Why Post-Quantum Cryptography Cannot Wait

Quantum computing is no longer a theoretical curiosity. With steady progress in error correction and algorithm development, machines capable of breaking today's encryption may arrive within one or two decades – perhaps sooner. For organizations that depend on digital trust, this is an existential risk. The practice known as "harvest now, decrypt later" means sensitive data intercepted today could be exposed when quantum computers mature. Europe, facing hybrid threats and new regulatory requirements, must prepare quickly. The transition to Post-Quantum Cryptography (PQC) is not simply a technical upgrade; it is a matter of digital sovereignty and long-term business survival.

The Quantum Threat: Why Today's Security Will Not Last

Public key cryptography underpins modern digital life, from secure messaging to software licensing. Yet algorithms like RSA and elliptic curve cryptography, once thought robust, will eventually fall to quantum techniques such as Shor's algorithm.

Prof. Dr. Joern Mueller-Quade of Karlsruhe Institute for Technology (KIT) explained at this year's Wibu-Systems INNO DAYS roundtable: *"We cannot just assume quantum computers will arrive late. Even if the probability is small in the next 10–15 years, the risk is real because secrets harvested today can be decrypted tomorrow."*

The implication is clear: migration to PQC must begin now, not when quantum hardware becomes mainstream.

Hybrid Threats and the Geopolitical Dimension

Cybersecurity is no longer only about criminal activity; it is inseparable from geopolitics. The Charter of Trust, a publication authored by AES, Allianz, Atos, Bosch, Danfoss, IBM, Infineon, Siemens, and TÜV SÜD and presented at the Munich Security Conference (MSC) in February 2025, underlined the rise of hybrid threats – subtle combinations of cyber, physical, and psychological tactics used by state and non-state actors.

Infineon's CISO Raphael Otto noted: *"The distinction between financially motivated cybercrime and nation-state actors is blurring. Both increasingly collaborate, making attribution and defense harder."*

Hybrid threats show why PQC cannot be addressed in isolation. As Ursula von der Leyen famously said already in 2021: *"Anything which is connected can be hacked."* In a world where digital supply chains, healthcare, and even energy grids are targets, stronger cryptography is part of a wider resilience strategy.

AI and Quantum Computing as Game-Changers

Hybrid threats are not only about blurred lines between war and peace. They increasingly exploit the twin forces of artificial intelligence (AI) and quantum computing (QC). AI is already transforming cyber offense and defense: anomaly detection can protect networks, but adversaries use AI to generate malware, automate disinformation, or probe industrial systems. As Dr. Detlef Houdeau of Infineon pointed out, *"Cybersecurity for AI, with AI, and against AI are now parallel challenges – from protecting models and training data to defending against AI-driven attacks."* Quantum computing, meanwhile, poses an even more structural threat. Once operationally relevant, it will undermine today's cryptography. The transition will not be a clean cut: Europe's own roadmap foresees hybrid approaches, combin-

ing conventional and PQC algorithms to ensure continuity. The challenge is as much organizational as it is technical: companies must rethink lifecycles, supply chains, and certification strategies in the face of AI- and QC-enabled hybrid threats.

Europe's Roadmap: Regulation, Sovereignty, and Opportunity

Europe is not blind to the challenge. The EU's Cyber Resilience Act, the Coordinated Implementation Roadmap for PQC, and programs like EuroQCI set ambitious deadlines. High-risk areas must be quantum-secure by 2030, medium risk by 2035.

Dr. Houdeau emphasized: *"For critical infrastructure, procurement deadlines start as early as 2027 in the United States. Europe must move in sync – otherwise certified secure products will no longer be marketable."*

For Wibu-Systems, this is also a chance for Europe to lead. *"With the European Acts, sometimes seen as a burden, we have an enormous opportunity to raise the security baseline and build trust in Europe-made solutions,"* said Oliver Winzenried, CEO of Wibu-Systems.

Crypto-Agility: From Brownfield Reality to Practical Migration

The transition to PQC is not a greenfield project. Most infrastructures must migrate while keeping existing systems active. This requires crypto-agility: the ability to swap algorithms without redesigning entire ecosystems. Mueller-Quade explained: *"We have to design products in a way that crypto can be safely exchanged. Digital signatures used for updates, for example, must be quantum-safe as soon as possible."*

For industry, the challenge is compounded by performance and hardware constraints. PQC keys are often ten times larger than today's ECC keys, stressing chips in passports, secure elements, and IoT devices. As Dr. Houdeau cautioned: *"The performance impact can double transaction times at border control or point-of-sale terminals."*

Protecting the Digital Economy: Software, Licensing, and AI Models

PQC is not only about securing state secrets; it protects the fabric of the digital economy. Software vendors, device manufacturers, and AI providers face the same risk: counterfeit licenses and tampered applications if cryptography is broken.

Oliver Winzenried stressed: *"Licensing only makes sense if the deployed licenses are secure. Otherwise, illegal third parties can generate valid licenses, and the entire monetization model collapses."*

This is especially urgent in areas like AI-driven medical devices, where models are *"frozen"* under regulatory certification. PQC-based protection is required not only to prevent piracy, but to ensure the integrity and safety of critical AI models.

Preparing for Tomorrow: The Role of Industry Collaboration

No single actor can solve PQC migration alone. Hardware vendors, software companies, regulators, and research institutions must coordinate. Initiatives like the Charter of Trust demonstrate the value of cross-industry collaboration, fostering shared standards and best practices.

Thomas Depeweg, SAP's Chief Product Manager, explained how entitlement management ties into this ecosystem: *"Entitlements are rights – whether for licenses, services, or data. By combining SAP's Entitlement Management System (EMS) with Wibu-Systems' secure licensing, companies can ensure those rights are enforced all the way to the last mile."*

At Wibu-Systems, we recognize our responsibility in this chain. Both our hardware and software tools are being redeveloped to meet PQC standards – from dongles with PQC-ready security controllers to CodeMeter Protection Suite, CodeMeter License Central, and CmCloud with updated key management. The transition is already in motion, laying the foundation for a more secure digital future.

A Call to Action

The quantum era is not a distant prospect. Between hybrid threats, regulatory deadlines, and accelerating technical progress, the timeline for action is measured in years, not decades. Europe has the chance to turn compliance into leadership by embedding PQC into its digital backbone.

Companies cannot afford to wait. The first step is simple but critical: run an inventory, understand where your cryptography is, and prepare a migration plan. The second step is collaboration – with regulators, industry peers, and technology providers.

At Wibu-Systems, we are committed to this transition. By rebuilding our hardware and software with PQC in mind, we ensure that the licenses, applications, and digital assets our customers depend on will remain secure – not just today, but in the post-quantum tomorrow.

Quantum computing will break today's cryptography sooner than many expect, and adversaries are already harvesting encrypted data to decrypt later. Post-quantum cryptography is therefore not optional but essential. Migration must start now: run a cryptographic inventory, map product lifecycles, and plan upgrades. With crypto-agility, cross-industry collaboration, and PQC-ready solutions from partners like Wibu-Systems, organizations can secure their licenses, applications, and digital assets against tomorrow's threats.

Post-Quantum Cryptography: Future-Proofing Your Software Licenses

Quantum computers pose a fundamental challenge to IT security. In the long term, they threaten the commonly used asymmetric encryption methods such as RSA and ECC. To ensure that the licensing and protection of your software remain secure in the future, Wibu-Systems is working closely with technology partners like Infineon on a smooth, compatible, and crypto-agile transition to post-quantum-capable methods.

Why Quantum Computers Pose a Risk

The asymmetric algorithms used today, such as RSA or ECC, are the cornerstone for signatures, authentication, and license management. However, once powerful quantum computers become available, private keys could be derived from existing public keys. At that point, entire authorization systems would be compromised, as attackers would be able to generate counterfeit but formally valid licenses. The exact timeline of this transformation remains uncertain. But one thing is clear: anyone who begins the migration too late will face the consequences.

Crypto-Agility as a Strategic Principle

The international research community is working intensively on quantum-resistant methods. However, whether today's frontrunners will prevail in the long run cannot be predicted with certainty. Systems therefore need to be crypto-agile, meaning they must have the ability to replace cryptographic algorithms during ongoing operation. Only then can new methods be integrated quickly and seamlessly in the future. As an additional safeguard, classical and quantum-resistant methods will be used in combination. Only if both were to be broken simultaneously could the protected secrets be compromised.

New Libraries and Hardware

Post-quantum cryptography introduces new mathematical methods that require specialized libraries. For CmDongles, this also means that a new chip generation is necessary. In close collaboration with Infineon, the long-standing supplier of current CodeMeter chips, starting in 2027, Wibu-Systems will receive new hardware with certified libraries for post-quantum algorithms. Building on this foundation, Wibu-Systems will continue to develop its own firmware that provides the specific CodeMeter functions and can be updated in the field. This ensures that newly certified algorithms can be retrofitted in the future – a decisive factor for crypto-agility.

Implications for Licensing and CodeMeter

Issuing, transferring, and managing licenses with the Universal Firm Code is based on asymmetric cryptography. This makes these mechanisms equally vulnerable to the threats posed by future quantum computers and in need of timely replacement with post-quantum methods. All types of CmContainers are affected – CmDongles, CmActLicenses, and CmCloudContainers – along with every level of the CodeMeter ecosystem, from CodeMeter Embedded to the license server and all the way up to CodeMeter License Central. Instead of a sudden cutover, the transition will unfold gradually over several years. In this process, Wibu-Systems is redeveloping parts of CodeMeter, creating the framework for even greater efficiency, reliability, and performance.

Authenticated API as a Security Anchor

Another central element of the new architecture will be an authenticated API that ensures secure, end-to-end communication from the application to the CmContainer. The basis will be standardized algorithms that provide effective protection against eavesdropping and manipulation of transmitted secrets. To make use of this API, all participating components must support the new cryptographic standard. This includes re-encrypting the application with the current version of Code-

Meter Protection Suite, as well as updating the license server and the licenses stored in the CmContainer.

Smooth Migration with Full Compatibility

The transition into the future CodeMeter universe will be seamless. Applications delivered today will remain compatible with future licenses already secured by post-quantum mechanisms. CmCloudContainers will be extended for compatibility by Wibu-Systems, and CmActLicenses can be migrated via CodeMeter License Central or the high-level programming API. For end users, this change will be largely invisible. As a software vendor, however, you will need to familiarize yourself with the new capabilities and, for example, decide when switching to the authenticated API makes sense.

No need to worry: Your existing applications and licenses will remain fully compatible in the future. Wibu-Systems is already working intensively to make post-quantum mechanisms and new security features available on time. Compatibility will be preserved – even older applications will still work with new PQC-secured licenses. At the same time, existing licenses will benefit from improvements in performance and security that also extend to current systems. The migration will happen automatically, ensuring the transition is as smooth and effortless as possible. With post-quantum cryptography, cryptoagility, and a new authenticated API, the entire system will be more resilient against attacks.

Architecting the Modern Industrial Edge Systems: From Compute to Monetized Services

The industrial landscape is undergoing a fundamental architectural shift. The proliferation of sensors and intelligent machinery generates massive datasets on the factory floor, making centralized cloud processing increasingly impractical due to latency, bandwidth costs, and reliability concerns. In response, a new paradigm has emerged: edge computing, which moves computational power from distant data centers to the operational boundary where data is generated.

Modern industrial edge devices have evolved beyond simple data collectors into hardened compute hubs that perform real-time analytics and control. By processing information locally, this architecture delivers deterministic, low-latency response times essential for critical operations, protects sensitive process data, and ensures uptime even during network disruptions. This resilient on-premises platform not only lowers data storage and transfer costs but also lays the foundation for modular, on-demand software deployment – unlocking continuous innovation and measurable ROI in complex industrial environments. However, managing software across a distributed fleet of these devices presents a new set of challenges that requires a modern, cloud-native approach.

Part 1: A Cloud-Native Approach to Edge Software Delivery

Delivering Agility with Containerization

With significant compute power now at the edge, traditional monolithic software deployment is no longer sufficient. To keep pace with innovation, industrial systems require cloud-style delivery pipelines that are both agile and reliable. Containerization technology, such as Docker, provides the answer. It works by packaging applications and their dependencies into portable, lightweight units that run predictably across heterogeneous edge devices, all atop a minimal, hardened host operating system.

This methodology offers two distinct advantages:

- **Security:** By isolating each service in its own container and locking down the base system, the device's attack surface is significantly reduced, ensuring robust security.
- **Consistency:** The self-contained nature of containers guarantees consistent runtimes regardless of the underlying hardware.

This combination turns an industrial device into an "app-store-ready" platform, able to receive new features and updates on demand, long after its initial deployment. For businesses, this model extends hardware lifecycles and shifts development from costly, one-off projects into ongoing, incremental value streams.

Orchestrating Device Fleets with Kubernetes

While containerization solves application portability, it introduces the challenge of managing software versions, rollouts, and health across hundreds or thousands of devices. To address this, enterprises are deploying production-grade Kubernetes distributions (and lightweight variants like K3s or RKE2) directly on industrial edge hardware.

These orchestration platforms automate critical fleet management tasks, from deployment, scaling, and configuration to health monitoring and automated rollbacks, across geographically dispersed sites. This ensures every node runs the correct service versions without requiring manual intervention, providing stability and consistency at scale. With scalable orchestration in place, software vendors can turn every new fea-

ture into a predictable revenue stream, while customers gain access to modular and secure edge software on demand.

Part 2: Securing and Monetizing the Edge Ecosystem

Once software can be deployed and managed effectively, the final architectural component is a robust framework for securing intellectual property (IP) and enabling modern monetization strategies. CodeMeter addresses this by weaving software licensing and protection directly into the edge stack – from the device firmware to the containerized applications and Kubernetes workflows.

Its host-based architecture runs a license server as a native service on the edge device, either integrated into the firmware via Yocto recipes or installed through standard Linux packages. This approach decouples the licensing infrastructure from the container lifecycle. Applications running inside containers can then request entitlements, such as subscriptions, feature-keys, or pay-per-use licenses, from the local service at startup and during runtime. The service transparently delivers and enforces these entitlements, guaranteeing that only authorized code executes.

Furthermore, CodeMeter provides a secure vault for cryptographic assets like private keys and certificates, provisioning each device with a tamper-resistant identity. The dual benefit is significant: IP is protected against piracy and tampering, while modern revenue models become turnkey solutions rather than complex, custom-built projects.

Business Impact for Vendors and Customers

This cohesive technical architecture delivers tangible value to both technology suppliers and industrial operators.

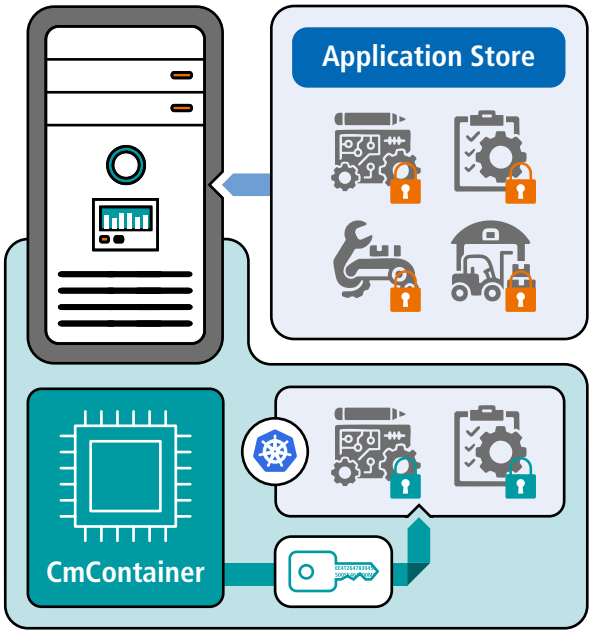
For Software Vendors and Device Manufacturers:

- **Recurring Revenue Models:** Native Kubernetes license enforcement and in-container entitlements make it straightforward to implement subscriptions, feature gating, and usage-based billing at scale. This converts irregular sales into predictable revenue streams and increases the lifetime value of each device.
- **Robust IP Protection:** Advanced techniques like compile-time protection, control flow obfuscation, and encrypted payloads prevent reverse engineering and unauthorized use directly at the runtime boundary, preserving competitive advantage.
- **Secure Fleet Identity:** On-device key storage and certificate management establish a verifiable, tamper-resistant identity for each device, which boosts platform trustworthiness.
- **An "App-Store" Ecosystem:** The combination of clean container packaging, integrated commerce, and protection capabilities allows manufacturers to monetize first-party features and curate third-party applications, growing platform revenue without requiring new hardware.

For Customers and Industrial Operators:

- **Operational Continuity:** Because licenses are stored locally, applications remain fully functional during network or cloud outages, reducing downtime in mission-critical workflows.
- **On-Demand Capabilities:** New features can be delivered as container updates and activated with a software license, shifting budgets from large capital expenditures to smoother operational expenses aligned with value.
- **Simplified Fleet Management:** Centralized license policies propagate automatically through Kubernetes, ensuring devices remain compliant as they are updated or moved, freeing teams to focus on production outcomes rather than administrative tasks.

Edge computing places decision-making intelligence where it is most needed – at the operational core. Combined with containerization, Kubernetes, and an integrated licensing framework like CodeMeter, form a complete operating model for the modern industrial ecosystem. Containerization makes edge software portable, Kubernetes makes device fleets governable, and CodeMeter makes the entire system secure, licensable, and monetizable by design. This integrated stack enables rapid delivery without disruption, IP protection without friction, and scalable business models that align value directly with capability.



Industrial app ecosystems can leverage CodeMeter for protection, licensing, and monetization at any scale.

AI in Customer Support: Enhancing Efficiency, Collaboration, and Service Quality

By introducing AI into our support processes, we are raising the bar on both speed and quality of service. Our automated system handles routine inquiries instantly, so our experts are available to help you with more specific needs. At the same time, AI fosters seamless international collaboration by bridging language and cultural barriers, making expertise and solutions globally accessible.

Our Methodical Approach

The introduction of our AI solution began with a thorough evaluation of various public providers. To test the effectiveness of the potential AI models, we conducted ten product-specific tests. The two providers that delivered the highest rates of correct and helpful responses were Google Gemini and Azure OpenAI.

The technical integration was carried out via the REST API of our TOPdesk customer support ticketing system. A decisive success factor during implementation was prompt engineering. The quality of the answers depends heavily on the precision of the prompts given to the AI. By carefully formulating these instructions, we ensured that the AI delivered not only fast but also high-quality and relevant responses.

Tool Calling: Expanded Knowledge for Better Answers

One of the most important features integrated into the AI solution is the so-called tool calling. This function allows the Large Language Model (LLM) to use external tools, such as Google Search. Through this connection, the AI can access current and expanded data sources. This improves response accuracy for time-sensitive or complex queries and ensures that answers are not only based on static training data, but also take into account dynamic, up-to-date information.

RAG and Internal Knowledge Databases

Further development of the AI solution is already planned. A central element of the next phase is the integration of Retrieval-Augmented Generation (RAG). RAG will connect the AI models from Google Gemini and Azure OpenAI with another key data source: Wibu-Systems' internal documents. These include manuals, guides, and other exclusive resources. This strategy ensures that the AI can access the company's consolidated internal knowledge. By combining the broad knowledge of LLMs with specialized in-house expertise, the quality of answers will be improved further. To ensure optimal performance, parameters such as chunking (splitting documents into smaller sections) and document indexing will be carefully fine-tuned.

Field Report: First Deployment of AI in Support

Our first AI-powered support deployment exceeded expectations and delivered faster, smarter assistance for our customers from day one. Particularly striking was that the costs for implementation and operation were significantly lower than expected. This greatly lowered the barrier to entry and showed us that AI solutions can deliver great value even with a manageable budget.

Another success factor was that public providers such as Google Vertex AI or Microsoft Azure OpenAI Service came with an impressive baseline understanding of our product information. This allowed us to achieve results very quickly without time-consuming, extensive training.

Our Areas of Application in Everyday Work

- **Ticket Summarization:** AI generates precise and understandable summaries, speeding up processing.
- **Translations for International Subsidiaries:** Language barriers are almost completely overcome through fast and high-quality translations.

- **Automatic Creation of Knowledge Base Articles:** Recurring solutions are systematically documented and made available to the entire team.
- **Automatic Incident Qualification:** Standard cases can be quickly pre-filtered by AI, enabling staff to focus on more complex issues.

AI is unlocking powerful new opportunities to serve our customers better, from faster more efficient support to smarter collaboration and real-time knowledge sharing. However, there are also limits: especially with complex issues involving multiple interconnected aspects, AI still reaches boundaries. Human expertise remains indispensable to evaluate context correctly and develop holistic solutions.

Ongoing Steps for Introducing AI in Customer Support

Automatic Responses for Customer Inquiries

End user requests will initially be answered automatically by AI. This will allow us to cover standard questions and recurring topics faster, freeing up valuable support time for more complex cases.

Optional for Customers

The first AI-generated responses will be available to all customers. If you no longer wish to use this feature, simply let us know, and we will deactivate it for you.

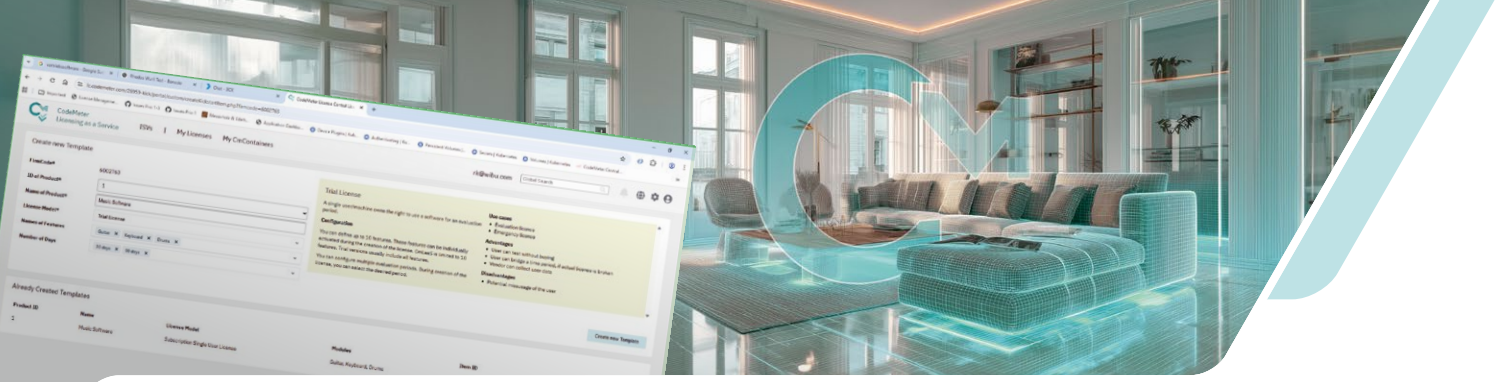
Special Option for Support Contract Customers

Customers with support contracts will by default not receive automatically generated answers, ensuring they continue to enjoy the familiar, personalized service. However, if desired, we can also activate AI-based first responses for this customer group, giving them the added benefit of immediate and rapid reaction times – even outside of business hours.

Future: Automated Assistance in the Ticket Process

Our next step is to have AI actively support ticket processing to provide you with faster and more accurate assistance. It will automatically request additional supplementary information such as logs or CmDust files before a support agent takes over the ticket. This will significantly reduce processing times, as the necessary preparatory work will already have been completed in advance.

The introduction of AI in our support organization marks a decisive step toward a new service culture. Customers benefit from faster, round-the-clock responses and higher-quality solutions, while our support staff gain the freedom to focus on complex issues instead of routine tasks. At the same time, AI connects our global team beyond language and cultural boundaries, making knowledge and expertise universally accessible and enabling truly borderless collaboration.



Licensing-as-a-Service: Fast, Flexible, and Future-Proof

Licensing does not have to be complicated. With CodeMeter Licensing-as-a-Service (CmLaaS), software vendors can begin right away with preconfigured models, tailor them to their own needs, and expand flexibly – without compromising on security or individuality.

Do you remember your first apartment? Unless you moved into a fully furnished one, you probably still recall the days or weeks you spent putting together your own interior. Of course, this has the advantage of giving you a home tailored to your personal needs and preferences. On the other hand, it costs both time and money. A furnished apartment, by contrast, is ready to move into immediately and usually meets general standards.

Now imagine renting a furnished apartment where you could choose between a few standard layouts. Your home would still be ready to move into immediately, yet better suited to your needs. This is exactly what you get with CodeMeter Licensing-as-a-Service (CmLaaS).

But let's take the apartment comparison from the top. With CodeMeter License Central as the backend and CodeMeter License Portal as the frontend, Wibu-Systems offers a fully customizable software licensing solution. You create your license models individually in CodeMeter License Central, just like furnishing an empty apartment. In addition to the time involved, you also need the necessary expertise to ensure the license models meet your requirements. A professional license designer from Wibu-Systems' Professional Services team can act as your interior designer. You have the option to either buy (host CodeMeter License Central on-premises) or rent it through Wibu Operating Services.

If, on the other hand, you want to start quickly and easily, CmLaaS is the right choice for you. The most common license models are already preconfigured, so you can get going immediately. Our offering is like a move-in-ready apartment, furnished with attractive and practical pieces.

Still, you are not locked into a mass product. With CmLaaS, you define license templates that fit your products and provide flexibility for your customers. Our Sales and Professional Services teams are available to support you with advice and hands-on assistance.

For each license template, you specify the product name to be licensed and the features that customers can purchase. For example, the template for your "Music Software" product could include the additional feature "Piano." This way, both cases are covered: with or without piano. And should you no longer like a "piece of furniture" or want to add a new license model, you can simply change it at any time.

Once the license templates are created, you receive an AxProtector configuration file to automatically protect your application, along with a user account for CodeMeter License Portal to assign licenses to your customers. To support you further, we provide tutorial videos that explain how this step should be carried out. With these resources, you can license your product independently within an hour. And if something does not go as expected, we are of course there to help you.

License Models

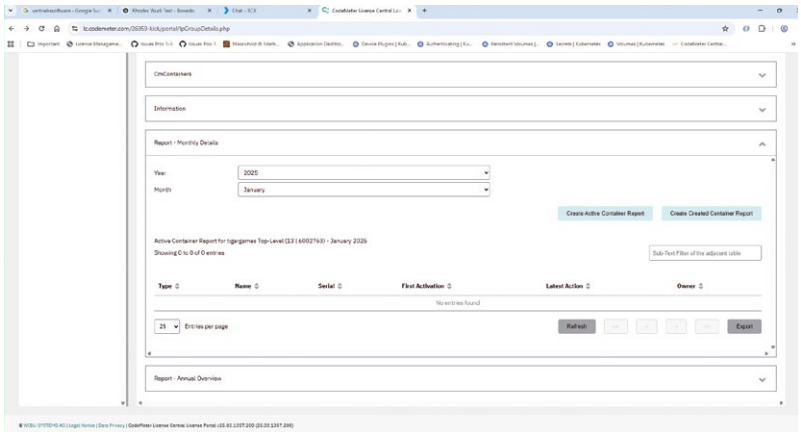
Perpetual Single User License

A license purchased once can be used indefinitely without the need for renewal. It is bound either to a device (CmActLicense), a dongle (CmDongle), or a user account in the cloud (Personal CmCloudContainer). It can be used on the device it is bound to, or wherever the dongle or user account is directly connected. No later synchronization with the CmLaaS server is required, meaning CmActLicenses or CmDongle licenses can run completely offline.

For you as a vendor, however, this type of license does not generate recurring revenue.

Perpetual Floating Network License

This license is analogous to the Perpetual Single User License. It, too, can be used without any time limitations. Unlike a Single User License, however, this license resides on a license server and can be used simultaneously by a number of users or devices that you define.



With CodeMeter Licensing-as-a-Service, you create templates for your licenses and can use them immediately.

The license container (CmActLicense or CmDongle) is connected to the license server. The clients running the software do not require a local license container.

For cloud-based licenses, an Enterprise CmCloudContainer is required, which can either be linked to the license server or directly to individual clients.

Subscription Single User License

In contrast to a perpetual license, a subscription license has an expiration date, which you define at the time of issuance along with the cancellation period. Unless canceled, the license is automatically renewed for one year after it expires.

For devices that operate offline, the license renewal process can be simplified with a push update. In this case, CmLaaS generates an update file for each license, which can then be distributed offline to the devices. A backchannel or a direct online connection of the device is not required, but can be used for automatic renewal with confirmation (receipt).

This model not only creates recurring revenue, but also lowers the barrier to entry for customers who only want to use your software for a limited time.

Subscription Floating Network License

This license is comparable to a Subscription Single User License. The difference is that it resides on an offline or cloud license server. This simplifies the renewal process, since only one central license needs to be renewed instead of multiple individual licenses.

Trial License

A trial license gives customers the opportunity to test your software for a set period of time you define. It expires automatically and is not renewed. If needed, new trial licenses can be issued. Another possible use case is as an emergency license.

Prepaid Time-Based License

A prepaid license includes a fixed time credit, such as 30, 90, or 365 days. Once activated, the quota is unlocked and expires after the defined period. The following scenarios apply:

- If a suitable, valid license is already present on the license container, the license is extended by the set period.
- If a suitable but expired license is present on the license container, the expired license is deleted and replaced by a new license.
- If no suitable license is present on the license container, a new license is created.

Typically, these licenses are used for editions with fixed features, but they can also be applied to feature-based models. Best practice for edition or feature changes is to handle upgrades or downgrades at the time of activation.

(Not for Resale) Internal License

Internal licenses are intended for you and your employees to demonstrate your products or provide support to prospects and customers.

They renew automatically every 30 days unless otherwise defined. This prevents you and your employees from holding permanently valid licenses, which could, in the event of loss, lead to unwanted permanent access to your software.

Quick Start

With CodeMeter Licensing-as-a-Service, you can start licensing your software quickly and easily. Common licensing models such as perpetual, subscription, and feature-based can be easily defined and used. And the best part: If you ever need additional customized licensing models, you can configure them in the backend at any time and use them immediately.

CodeMeter Licensing-as-a-Service combines speed with flexibility. Standard license models are ready to use, with customization options always available, and updates or renewals are handled smoothly. Vendors gain recurring revenue options, while customers enjoy a straightforward and secure licensing experience.

CodeMeter License Central 5.1: Cloud-Agnostic, Scalable, and Future-Ready

Customer expectations are rising, markets remain volatile, supply chains are becoming more complex, and regulations are tightening. Today, anyone licensing and delivering software needs more than just a powerful product, they require digital sovereignty, high availability, dynamic scalability, and the ability to adapt quickly to change. This is exactly where our approach comes in.

CodeMeter License Central is Wibu-Systems' central back-office component for CodeMeter licensing. It enables independent software vendors (ISVs) and intelligent device manufacturers (IDMs) to define and distribute licenses, create product packages, and manage sales options – either manually or automatically through integrations with CRM or ERP systems.

With versions 5.0 (Q2 2025) and 5.1 (Q4 2025), we are modernizing the operation of CodeMeter License Central through containerization and the use of Kubernetes. This enables us to deliver a cloud-based solution that is vendor-independent and deployable in any public cloud, allowing you to stay flexible across multiple cloud regions and even your own data centers. Built on market-proven technology, it ensures reliability through automatic failover and minimizes downtime during updates. The new Wibu Registry provides verified images and ensures transparency in quality and maintenance.

While your competitors get lost in infrastructure details, you can stay focused on revenue, innovation, and your customers' needs.

The following sections highlight the technological innovations and their concrete benefits, as well as the upcoming changes to the licensing model.

Scalability and High Availability with Kubernetes

To provide maximum availability, scalability, and resilience, Wibu-Systems has adopted Kubernetes as the orchestration layer for CodeMeter License Central. Kubernetes is the recognized standard across major cloud providers: AWS (with its global infrastructure), Microsoft Azure (the enterprise cloud), Google Cloud (a leader in data and AI), and Alibaba Cloud (the regional powerhouse in Asia). This ensures that CodeMeter License Central can be deployed independently of any single provider, offering freedom of choice and guaranteed continuity in a shifting global environment.

The foundation for this step was laid with CodeMeter License Central 5.0, which introduced containerization in spring 2025. Building on this, version 5.1 completes the transition with full Kubernetes orchestration. Customers now benefit from a platform that is not only portable across infrastructures, but also dynamically scalable and resilient by design.

Hosting Operation

Until now, CodeMeter License Central has been operated in two data centers in Germany. From version 5.1 onward, operation moves to AWS Germany or equivalent cloud environments, orchestrated by Kubernetes. This allows us to flexibly select the most suitable hosting provider for any region – ensuring compliance, resilience, and local performance advantages, particularly in fast-growing markets like Asia.

When operated in a hosted setup, CodeMeter License Central under Kubernetes provides customers with key advantages, including:

- Automatic scaling of instances
- Rolling updates without downtime
- Distributed software components for balanced workloads
- High resilience through multiple data centers
- Stable operations on globally proven infrastructure

On-Premise Operation

Customers who prefer or require on-premises operation can continue to run CodeMeter License Central as a virtual machine. With version 5.1, the Enterprise On-Premises Edition supports improved update handling: Major version upgrades still require planned downtime, but minor and patch updates can now be applied with minimal or no downtime. The Professional Edition requires a planned downtime with its length depending on the type of change.

For enterprises with higher demands, the Enterprise Edition On-Premises goes further. In this variant, customers provide both the database and the Kubernetes cluster, and CodeMeter License Central runs natively in that environment. The result is permanent scalability, better performance, and high resilience, supported by a modern architecture designed for rapid recovery.

To ensure smooth operation of containerized components, Wibu-Systems has introduced the **Wibu Registry.** This registry provides regularly updated and fully tested container images, guaranteeing that all components work seamlessly together. For customers with strict security policies that restrict Internet connectivity, we also offer an option to install CodeMeter License Central in an offline environment.

New Licensing Model and Editions

Hosting Editions (as of 5.1):

Until now, customers could choose between Datacenter Edition, Dedicated Server, High Performance Edition, and High Availability Package. From version 5.1, these are replaced by three streamlined editions:

- **Basic Edition**
- **Professional Edition**
- **Enterprise Edition**

The differences lie primarily in the number of CodeMeter License Central instances provided. Thanks to Kubernetes, both permanent and flexible instances can be scaled up at any time. Automatic failover, previously exclusive to the High Availability Package, is now included in all editions. For the Enterprise Edition, failover is immediate; the smaller editions may experience brief downtime. RPO and RTO values are significantly improved, and all customer data is backed up daily for 30 days.

Customers using the Professional Hosting Edition or higher can integrate external systems such as ERP environments.

On-Premises Editions (as of 5.1):

Our upcoming on-premises editions are structured as follows:

- **Professional Edition On-Premises:** CodeMeter License Central runs in a virtual machine, containerized under Docker.
- **Enterprise Edition On-Premises:** CodeMeter License Central runs entirely under Kubernetes, with Helm charts provided for deployment.

The previous Desktop Edition and Internet Edition will no longer be newly licensed from version 5.1 onward.

Outlook for CodeMeter License Central Customers

With version 5.1 and later, customers previously using Desktop or Internet Edition on-premises will be migrated to subscription licenses, in line with the hosting model. Depending on the chosen edition, this translates into annual payments that finance the continuous evolution of CodeMeter License Central.

To access the Wibu Registry, all on-premises customers and prospects will require an access token. In the future, CodeMeter License Central will, like other CodeMeter components, adopt the global Wibu ID for unified login and authorization across the CodeMeter ecosystem.

Comparison of key features in the new CodeMeter License Central Hosting versions

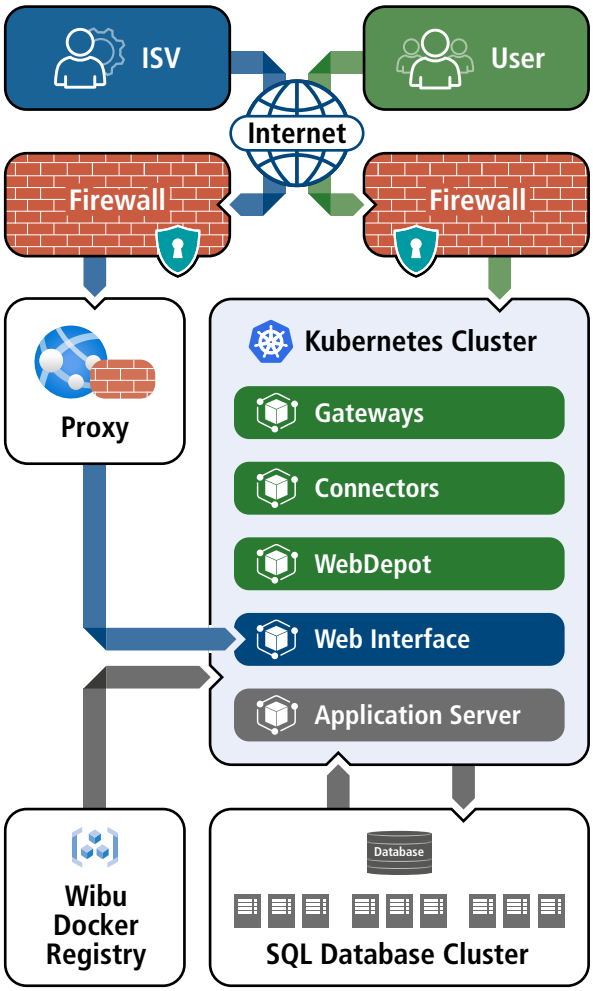
Feature	Basic Edition	Professional Edition	Enterprise Edition
Redundant DB cluster	–	✓	✓
# of permanent instances included	1	1	2
# of permanent instances is increasable	–	–	✓
# of flexible instances is increasable	–	✓	✓
Auto-scaling	–	✓	✓
Automatic instance failover	✓	✓	✓ (Instant)
RPO (Recovery Point Objective) / RTO (Recovery Time Objective)	< 8 hours	< 60 minutes	< 1 second
CodeMeter License Central Extensions available	Gateways	Gateways, Generic Connectors	Gateways, Generic Connectors, Customer specific solution

Wibu-Systems has prepared migration paths to ensure that existing customers can adopt the edition that best matches their needs under the new licensing model. We understand the complexity and importance of keeping these systems running smoothly on your end; no hosting customer will be migrated without prior communication. The migration of all existing hosting customers is planned for completion by 2027.

In a world of constant change and evolving requirements, Wibu-Systems remains a bastion of stability and quality. With CodeMeter License Central 5.1, you receive a fully containerized, Kubernetes-ready solution that gives you the freedom to adapt your software licensing and operations to your needs. We provide the secure foundation to create, manage, and roll out software licenses with confidence – today and in the future. Many of the upcoming requirements of the Cyber Resilience Act are already covered, enabling you to focus on your core business and maximize returns.

Existing customers are invited to contact our **sales** or **support** teams. Together, we will tailor the migration path and timeline to perfectly match your requirements.

CodeMeter License Central 5.1 delivers full containerization and Kubernetes orchestration for both hosted and on-premises deployments. With new editions, cloud-agnostic scalability, and the Wibu Registry ensuring smooth updates, customers gain flexibility, resilience, and compliance – today and for the future.



Example setup of CodeMeter License Central in Kubernetes

	Current Edition	Future Edition	Major Benefits
Hosting Versions	DataCenter	**Basic**	■ Faster RPO / RTO (3d/24h to <8h) ■ Various product improvements
	Dedicated Server	**Professional**	■ Faster RPO / RTO (24h to <60 minutes) ■ Increased performance through automatic scaling up to 2 instances (optional) ■ Various product improvements
	High Performance	**Performance**	■ Faster RPO / RTO (30minh to <10 minutes) ■ Increased performance through automatic scaling up to 2 instances (default) ■ Various product improvements
	High Availability	**Enterprise**	■ Dedicated database cluster ■ Increased performance through automatic scaling up to 4 instances (default) ■ Ability to scale beyond 4 instances without manual intervention (optional) ■ Access to all CodeMeter License Central Extensions ■ Various product improvements
On-Premises Versions	Desktop	**Professional**	■ All product features unlocked ■ Access to all CodeMeter License Central Extensions ■ Various product improvements
		Enterprise	■ All product features unlocked ■ Access to all License Central Extensions ■ Increased performance through automatic instance scaling ■ Various product improvements

CodeMeter License Central: From current to future versions

Case Study | PlantStream

Read the entire success story

PlantStream is transforming the industrial plant design process through its innovative 3D CAD system with automatic pipe routing. By integrating precise automation and robust software protection, PlantStream accelerates engineering workflows while safeguarding intellectual property.

PlantStream

The Challenge

PlantStream faced both commercial and technical hurdles as they prepared for their global launch. Commercially, the company aimed to expand beyond the domestic Japanese market, necessitating robust security measures to prevent unauthorized use as product adoption grew. Technically, PlantStream's automatic routing tool is often deployed across multiple users within organizations, many of which could not – or would not – install a traditional license server due to internal security policies or lack of dedicated IT support. Additionally, the team needed to monitor license consumption accurately, simplify license distribution and activation, and integrate license management seamlessly with PlantStream's internal systems to automate workflows from deployment through invoicing.

The Solution

To address these challenges, PlantStream implemented Wibu-Systems' CodeMeter technology, leveraging both cloud-based and file-based licensing to provide flexible, secure protection. By using CmCloud along with CodeMeter License Central and WebDepot, PlantStream offered instant demo licenses to prospects, monitored feature usage with daily reports, and extended evaluation periods on demand. For organizations unable to maintain continuous connectivity, CmActLicense provided an offline alternative. AxProtector .NET ensured comprehensive encryption of PlantStream's C# application, while seamless integration with CodeMeter License Central streamlined license lifecycle management, from issuance to renewal and invoicing.

The Results

The deployment of CodeMeter delivered immediate benefits. PlantStream reduced the Feasibility Study (FS) and Front-End Engineering Design (FEED) phases by approximately 75% thanks to its automatic routing – processing around 1,000 pipes in a minute-while ensuring enterprise grade protection against unauthorized use and tampering. CodeMeter License Reporting enabled the team to propose additional licenses based on usage data, driving upsell opportunities. Global customers received instant, hassle free activation without server installation, increasing satisfaction and accelerating time to revenue. By automating renewals and leveraging cloud based reporting, PlantStream eliminated manual steps and achieved a more efficient, scalable licensing operation.

Kazuhisa Horita, Customer Success Manager, PlantStream
"PlantStream is a 3D CAD software with automatic pipe routing, which raised high expectations among both domestic and international designers. With CodeMeter's cloud licensing, we were able to track which features each prospective customer used during evaluations, allowing us to extend demos, provide additional seats, and optimize our pre-sales process. Looking ahead, we plan to leverage cloud caching to maintain offline access and ensure seamless workflows, even without connectivity."

SUCCESS STORY

From Chaos to Control: Mastering Software Licensing

In today's industrial landscape, software is the engine of productivity. But what happens when the key to that engine – the software license – is misplaced, expired, or unavailable? The result is often a sudden halt in production, frustrated users, and spiraling costs. Many enterprises manage licenses reactively, only addressing problems after they've disrupted workflows. A more powerful approach lies in proactive management: integrating the rich data from CodeMeter's robust API and command-line tools directly into existing license monitoring systems or custom-built solutions.

Without real-time visibility, organizations are exposed to several risks that directly impact their bottom line and operational efficiency.

- **Unexpected Expirations Halt Production:** A critical license expiring without warning can bring an entire design team or production line to a standstill. The ripple effect causes missed deadlines and erodes user confidence.
- **Overuse Creates Bottlenecks:** When all available licenses are in use, users are denied access to essential applications. This leads to frustrating delays as employees wait for a seat to become available.
- **Underutilization and Wasted Resources:** Conversely, surplus licenses often go unnoticed. Paying for ten seats of specialized software when only five are ever used is a common and completely avoidable expense for companies.

Shifting to a Proactive Strategy

To escape this reactive cycle, organizations need a centralized source of truth for their software assets. An effective license management strategy requires:

- **Live Usage Data:** Real-time insights into who is using what, where, and for how long.
- **Detailed License Information:** A complete inventory including expiration dates, available features, and total license quantities.
- **Intelligent Alerting:** Automated notifications for upcoming expirations or when license availability becomes critically low.

This is where CodeMeter provides a comprehensive solution, offering both a powerful API for custom integrations and a command-line tool for immediate diagnostics.

A Practical Deep Dive with the cmu Tool

The CodeMeter Universal Support Tool (cmu) is a command-line utility that empowers administrators to access instant, detailed license information directly from the server.

Example 1: Getting a Quick Inventory

To get a quick overview of all licenses from a specific manufacturer (e.g., WIBU-SYSTEMS, Firm Code 6000947), you can run:

```
cmu --list-network --firmcode 6000947
```

Example 2: Investigating a Live License Session

To get detailed information, including usage and expiration, for a specific license container, use:

```
cmu --list-network --show-expiration --serial
130-1890112855
```

The output is rich with actionable data. Let's break down a typical response when a license is in use:

```
Server: lap-anpr
License: 4 Serial: 130-1890112855 FC:PC
6000947:6  FeatureMap 0x00
   Text: License Test
   User=1 NoUser=0 Excl=0 Station=0 Used=1
   Free=0 Total=1
   Handle: 939 AccessMode: 0x00000000
   PID: 39532    User: anpr
      Create: 2025-08-29 15:08:00(UTC)
      Client address: ::1
   Expires 2025-10-30T00:00:00 (UTC)
```

- **Used=1 Free=0 Total=1:** Instantly confirms that the license is fully utilized.
- **User: anpr:** Pinpoints exactly who is using the license. This turns a vague user complaint into a clear diagnosis: "Ann is using the last license; it should be free shortly."
- **Expires: 2025-10-30T00:00:00 (UTC):** The precise expiration date of the license.

The line Used=0 Free=1 Total=1 provides an unambiguous, real-time status. Seeing that a license is free means that a user can immediately launch the associated software – no waiting, no "access denied" errors. For administrators, it is instant confirmation that the system is healthy and resources are available. Combined with the clear expiration date (Expires 2025-10-30), it delivers a complete picture for both immediate troubleshooting and long-term planning, such as budgeting for renewals.

Example 3: Tracking License Shortages

When users report frequent access denials, you need data to understand the scope of the problem. The cmu tool can retrieve a log of all rejected license requests from a server.

```
cmu --list-rejected-allocations --get-data --server
10.49.205.56
```

This command reveals every attempt where a user tried and failed to get a license:

```
cmu.exe - CodeMeter Universal Support Tool.
Version 8.30a of 2025-May-06(Build 6885) for Win64
Copyright (C) 2007-2025 by WIBU-SYSTEMS AG.
All rights reserved.

2025-09-11T16:26:53 Denial LicenseID:
130-1890112855-6000947-17, FC:6000947, PC:6,
LQ:1, Client:"localhost", User:"WIBU\anpr"
2025-09-11T16:26:53 Denial LicenseID:
130-1890112855-6000947-17, FC:6000947, PC:6,
LQ:1, Client:"localhost", User:"WIBU\anpr"
2025-09-11T16:26:54 Denial LicenseID:
130-1890112855-6000947-17, FC:6000947, PC:6,
LQ:1, Client:"localhost", User:"WIBU\anpr"
```

- **2025-09-11T16:26:53 Denial:** A precise timestamp of the failed request.
- **FC:6000947, PC:6:** The Firm and Product Code, identifying the exact software in high demand.
- **User:"WIBU\anpr":** The specific user who was denied access.

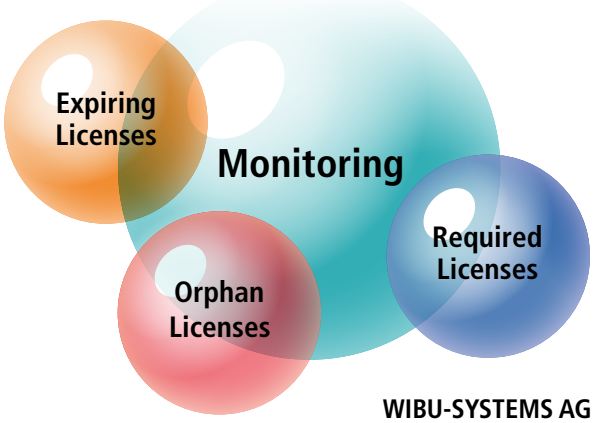
This log is invaluable. Repeated denials for the same product code provide concrete evidence to justify purchasing additional licenses or re-evaluating workflow schedules.

Beyond Diagnostics: Enterprise Integration and Automation

While the cmu tool is perfect for quick checks, the CodeMeter API unlocks true enterprise-wide automation. By integrating this API into other systems, you can:

- **Build Custom Dashboards:** Feed real-time license data into monitoring tools like Grafana or Power BI to create visual dashboards for department heads.
- **Automate Cost Allocation:** Poll usage data and generate reports that automatically allocate licensing costs to departments based on real usage.
- **Enable Flexible Deployment:** CodeMeter's architecture is built for modern environments, from central servers and Kubernetes clusters to industrial edge devices that ensure production continuity.

Effective license management is no longer just an IT task – it is a strategic business advantage. With the deep visibility offered by CodeMeter's tools, organizations can eliminate downtime, reduce wasted software spend, and empower users with the resources they need, when they need them. Integrating CodeMeter moves enterprises from reactive problem-solving to proactive optimization, ensuring the software ecosystem is a strategic asset, not a bottleneck.



From IP Protection to Monetization: Safeguarding Your LabVIEW Applications

LabVIEW developers pour expertise into crafting powerful applications, but without robust protection, their intellectual property is at risk. AxProtector, combined with the CodeMeter API, offers a straightforward and powerful way to secure LabVIEW executables and introduce advanced licensing models.

In the realm of visual programming, instrument control and industrial automation, LabVIEW is a cornerstone for engineers worldwide. Developed by National Instruments, LabVIEW has revolutionized how complex systems are designed, tested, and deployed since its inception in 1986. With its intuitive graphical user interface, where users connect functional blocks to create virtual instruments (VIs), LabVIEW enables rapid development in fields such as automation and measurement technology. From controlling industrial machinery to analyzing biomedical signals, LabVIEW applications drive innovation across industries.

Yet, this power comes at a cost. LabVIEW users invest vast resources and significant intellectual property to build powerful applications for their customers. These applications are often compiled into standalone executables for distribution. In our era, where reverse engineering, piracy, and intellectual property theft are endemic, safeguarding these assets is paramount. AxProtector delivers robust software protection and flexible licensing, ensuring that your LabVIEW applications remain secure and monetizable.

How AxProtector Secures LabVIEW Executables

Protecting a LabVIEW application with AxProtector is straightforward and requires no coding expertise.

Once your executable is compiled with LabVIEW's Application Builder, AxProtector steps in to wrap that binary with multiple defense layers. Advanced anti-debugging and anti-disassembly mechanisms make reverse engineering prohibitively difficult. The binary is then encrypted, and the AxEngine is integrated. At runtime, the AxEngine decrypts the application only in memory – and only if a valid license is present. This approach guarantees that your intellectual property is never exposed in plain code, while licensing becomes the key that governs access.

To protect your LabVIEW executable:

- Launch AxProtector and select the target platform.
- Specify the source file (your executable) and the destination for the protected version.
- In the Licensing Systems tab enter your Firm Code and Product Code. This specifies the cryptographic material that is used to encrypt your application. The Firm Code is unique to your company; for the Product Code you can choose from 1 up to more than 4 billion unique values.
- For now, you can keep all the other options at their default values.
- Proceed to the Summary tab and click Finish. AxProtector will encrypt the executable and bundle it with the AxEngine.

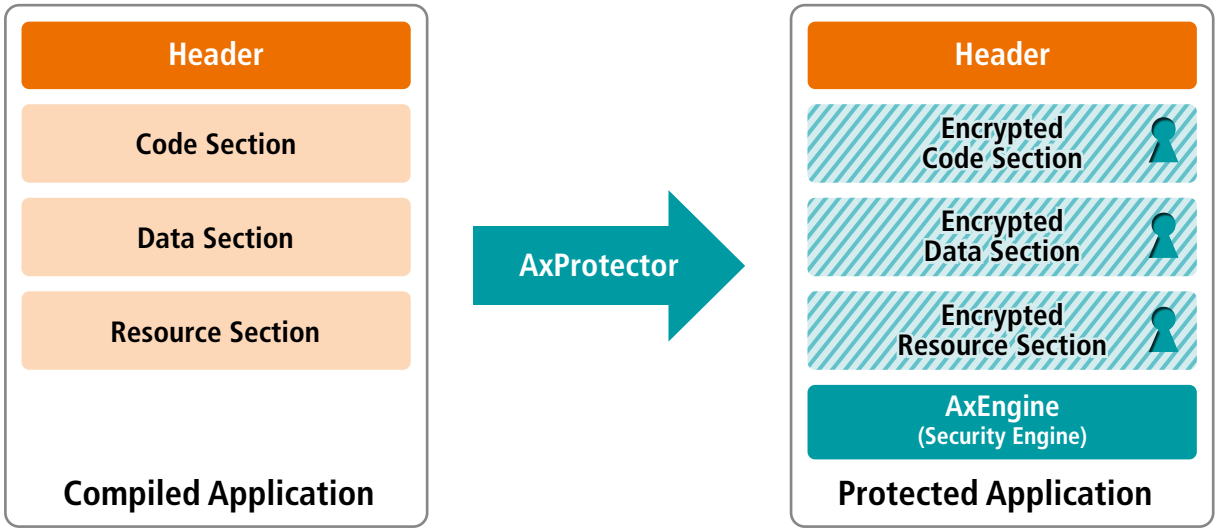
Once protected, your application will only run if a matching license is present. This setup prevents piracy and enables flexible distribution models.

Beyond Basic Protection: Usage-Based Licensing

For scenarios where consumption-based billing is relevant to your business model, unit counters are the way to go. Unit counters let licenses track usage with a decreasing count, where each app launch or specific action consumes units until the balance is depleted.

Adding the CodeMeter API

To implement this, we must go beyond automatic protection



AxProtector's automated software protection, showcasing its encryption and features for safeguarding applications against piracy and reverse engineering

by integrating CodeMeter API. This API provides programmatic access to license operations directly from your LabVIEW program. It is available as C API via a shared library and a corresponding header file. This makes it easy to integrate into your project via the Shared Library Wizard. This will generate a wrapper Virtual Instrument (VI) for each function and convert all data types in the shared library to LabVIEW data types.

Here is a high-level integration outline:

- Use **CmAccess2(..)** to access the license and retrieve a handle
- Use **CmCrypt2(..)** with an appropriate Encryption Code Options configuration to decrement the Unit Counter
- You can use **CmGetInfo(..)** to read the current state of the Unit Counter and display a message to the user
- Release the handle with CmRelease(..)

This can then be used to gatekeep core functionality in your application, consuming a unit each time a specific action is performed.

AxProtector's seamless encryption shields your intellectual property from piracy, while CodeMeter API Unit Counters enable dynamic licensing models such as pay-per-use, feature-based activation, or time-limited trials. Together, they give you the tools to safeguard innovation, strengthen customer trust, and create new revenue streams.

From Workshop to Workflow: Building Effective Licensing Models

Integrating CodeMeter into software and business processes is never a one-size-fits-all endeavor. Every company operates in its own environment, shaped by unique requirements and workflows. Successful licensing models emerge when these differences are acknowledged, mapped, and translated into a coherent strategy. Drawing on our experience from countless workshops with customers and prospects, we outline how to bring the right stakeholders together, ask the right questions, and turn insights into robust, future-ready licensing solutions.

Kick-Off

Based on our experience, initial workshops are most successful when participants from all relevant departments are present. In the context of developing licensing models, the following representatives should be included:

- Developers, to integrate CodeMeter into the software
- Product owners and sales teams, to define the desired licensing models
- Technical administrators of the CRM/ERP system, to configure the necessary interfaces to CodeMeter License Central
- Support staff, to assist end customers with potential issues.

The goal of this initial session is to establish a common language, ensuring that later discussions do not miss the mark. At the same time, each participant gains insight into the different workstreams, preventing the creation of concepts at one end that turn out to be technically unfeasible at the other.

Software

The starting point in this process is always the assessment of the software into which CodeMeter will be integrated. Typical questions at this stage include:

- Are there modules and/or functions that should be licensed or protected individually?
- Are there different editions with varying feature sets?
- Is pay-per-use a desired licensing model?

Whether the technical implementation is then carried out through simple encryption of finished artifacts using AxProtector or via deeper integration of the CodeMeter API directly into the software is, at this point, of secondary importance in this discussion.

Sales

On one hand, this stage is about defining licensing models. On the other, existing sales processes directly impact how these models are realized. This phase includes questions such as:

- Which licensing models should be implemented?
- Is there a configurator to define the exact specifications of the required license?
- How are license upgrades handled?
  - Does the CRM/ERP system always know the complete configuration of the new license?
  - Can a customer purchase add-ons independently of an existing license?
- In the case of subscription models, does the CRM/ERP system include a dedicated module for their management?
- In the case of pay-per-use, how and when should billing take place?
- What do upgrade processes look like?
- Are there different channels through which licenses are distributed?

CodeMeter License Central

At this stage, the focus shifts to how licensing models are implemented in CodeMeter License Central and which extended options are available. Key questions to address include:

- Which license options fit which models?
- How should modular software be licensed?
- Which interfaces are available for integration with external systems?
- How are new licenses created?
- How are updates to existing licenses performed?

Time to Get to Work

Once all these questions are answered, projects move into their real implementation phase across parallel workstreams.

- Development starts with integrating CodeMeter into the software. This can range from creating configurations for AxProtector to embedding the CodeMeter API. In most cases, this workstream is straightforward, since CodeMeter Runtime handles most of the heavy lifting. Only in the case of pay-per-use models are additional steps required.
- Sales and/or product owners define the items in the CRM/ERP system and in CodeMeter License Central. Ideally, there should always be a 1:1 relationship: for every sellable item in the CRM/ERP system that requires a license, there must be a corresponding item in CodeMeter License Central.
- The administrators of the CRM/ERP system then set up the connections to the CodeMeter License Central interfaces.

Licensing Models for Modular Software

There are major dependencies between the last two workstreams, since the capabilities of the CRM/ERP system and the chosen sales processes always influence the items defined in CodeMeter License Central.

Configurator

If the CRM/ERP system supports a configurator and always provides the exact license details when changes are made, then licensing in CodeMeter License Central should always be modeled with Module Items in combination with Replace Orders. Module Items offer the significant advantage that, once defined, they can be reused across a wide variety of licensing models. The required license options for each licensing model are defined only at the ModuleItemParent level and then inherited by the associated children. When a customer requests a change to an existing license, the configurator simply adjusts the relevant parameters, and the existing license in CodeMeter License Central is replaced by a new one.

From the end customer's perspective, this approach is also optimal, as there is always a single ticket that reflects the current state of the license.

Independent Modules

If, from a sales perspective, the software is more a logical grouping of separate modules, where an end customer can also purchase additional modules independently of an existing license, then default items should always be used in CodeMeter License Central, which can then be grouped into additional bundle items.

With this approach, however, all required license options must be defined for each individual item. As a result, for every licensing model implemented and for every module to be licensed, there is a separate item in CodeMeter License Central.

From an end user's perspective, this method has the advantage that modules can be purchased independently of existing licenses. The drawback, however, is that licenses for one system are often distributed across several tickets, which in turn makes support processes more complex.

Subscription Models

With subscription models, the crucial point is usually whether the CRM/ERP system in use includes its own module for subscription management. In this scenario, it makes sense to use that module and define the "Expiration Date" license option in CodeMeter License Central as order-specific.

If this is not possible or not desired, subscriptions can instead be managed via CodeMeter License Portal. In this case, the "Expiration Date" license option is defined as activation-specific, and the exact value is calculated when licenses are activated. In this setup, a reporting mechanism is usually required to feed the active subscriptions back into the CRM/ERP system.

Using relative values (e.g., 365 days) for the "Expiration Date" option only makes sense if there is no contractual commitment with the end customer. Since the exact expiration date is then calculated internally by CodeMeter License Central at activation, the subscription start date is not known in the CRM/ERP system, which complicates billing. For such cases, implementing time contingents in CodeMeter License Portal is the preferred approach.

The "Usage Period" license option must never be used in connection with subscription models.

The best licensing models are not the most complex, but the most practical. Start simple and resist the urge to cover every possible scenario from the outset. Before going live, stress-test your model. Once licenses are in customer hands, changes become costly. Finally, establish a unified approach across all your software products. This prevents fragmentation in your sales processes, simplifies development, and eases support.

Join Wibu-Systems at the following events:

SPS
25-27 November 2025
Nuremberg, Germany
Hall 6, Booth 428

Embedded World
10-12 March 2026
Nuremberg, Germany
Hall 4, Booth 168

Hannover Messe
20-24 April 2026
Hanover, Germany

INNO DAYS
15-16 July 2026
Karlsruhe, Germany

Wibu-Systems' INNO DAYS 2026

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www.wibu.com/inno-days.html

Wibu-Systems' Masterclasses

Our masterclasses are designed to share the knowledge and experience behind our technologies and mission, empowering cutting-edge protection techniques, secure software licensing best practices, and versatile monetization models worldwide. Each session combines practical insights from our CodeMeter ecosystem with our commitment to innovation, reliability, and digital trust. Stay tuned for upcoming announcements on our website or through our newsletter, and be ready to register for the sessions that best match your interests.

www.wibu.com/webinars.html

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