Case Study | ABB Marine & Ports

CodeMeter makes the leading marine advisory solution even more nimble and secure

Migrating to software-only licenses for more responsive license management

The Challenge
The world's premier shipping companies work with the software solutions of ABB Marine & Ports to get their vessels safely and efficiently to their destinations. A loyal customer of Wibu-Systems for over a decade, ABB has been relying on CodeMeter dongles to store the license keys for their ABB Ability™ Marine Advisory System - OCTOPUS. The current version of the system is using Wibu-Systems' robust metal-case CmStick ME, a perfect choice for the rugged conditions at sea. As satellite communications has made fast Internet connections at sea a common reality for maritime operators, the company is looking to move from physical to software solutions to streamline its logistics processes.

The Solution
The next release of the ABB Marine & Ports' marine advisory system, the OCTOPUS suite, will rely exclusively on the all-software CmActLicenses, which can be distributed through the cloud. While CmDongles offer unparalleled security, the opportunity to migrate to a software-based solution makes the system more convenient to use in the hustle and bustle of naval operations.

The Result
The decision in favor of Wibu-Systems' CmActLicenses not only simplifies the allocation of licenses but also of updates and new modules via the cloud with around-the-clock availability. As an added bonus, the capabilities of CodeMeter License Central gives the company flexible control over access to the data in the hydrodynamic databases and the use of real-time signal data.

Hendrik Middag
Global Product Manager, Digital Services
ABB Marine & Ports
"With our relatively small team of software builders, software-only license management is a great way of keeping stock of our licenses in a maritime business that is moving more and more to virtual solutions. With CodeMeter, we can prevent the inappropriate use of the system by incorporating a fingerprint of the devices and computers used by our customers in the software code of the OCTOPUS modules. Whenever a certain new module or an upgrade is launched, we upload the licenses together with that fingerprint of the licensed computer aboard a particular vessel to the cloud, which the user can then download. The security level stays high, but all in a simple software process."

The Company
ABB is a pioneering technology leader that works closely with utility, industry, transport and infrastructure customers in roughly 100 countries. With more than four decades at the forefront of digital technologies, ABB is a leader in digitally connected and enabled industrial equipment and systems with an installed base of more than 70,000 control systems connecting 70 million devices. With a heritage spanning more than 130 years, ABB employs around 136,000 people.

Whether it is the seeming routine journeys made everyday by thousands of cargo ships around the world or the intricate and often dangerous challenge of navigating precisely in the rough climes of the North Sea or the storm-ridden tropics: the crews on board and their counterparts on shore want their vessels to be safe and sound: no containers and their valuable cargo lost over board or costly underwater construction projects jeopardized by poor navigation. ABB Marine & Ports has developed the premier maritime advisory system OCTOPUS for this purpose. The technology relies on highly complex mathematical models, precise meteorological data, engine performance indicators, and a vast database of ship simulated movements – the Polar Plot – to help the captains of enormous container ships or the installers of offshore wind turbines to enhance the safety, availability, and efficiency during operations at sea. Furthermore, when the onboard OCTOPUS system is used together with the onshore ABB Ability™ Marine Fleet Portal, the ship operators' onshore operations department has a detailed insight in important key performance indicators coming from the ship. The portal allows an analysis of individual vessels, but also benchmarking of the performance.

Protecting such a complex and sophisticated system requires strong security features and a fool-proof licensing system. ABB Marine & Ports has long worked with Wibu-Systems for the purpose, originally using WibuKeys in 2002 and now relying on the newest generation of CmStick ME, a tough full-metal USB dongle, to store the required licenses. However, the naval world is not immune to the digital transformation that is affecting all walks of life: Physical dongles can be problematic on vessels where no USB ports are available or their use is restricted for security reasons, new commercial regulations place procedural restrictions on the use of dongles in some scenarios, and the advent of fast satellite connections at sea has opened the doors for new cloud-based solutions in maritime IT. ABB Marine & Ports is going with the times and has decided to migrate the next iteration of the OCTOPUS suite to a fully software-based license system with Wibu-Systems' CmActLicenses. These soft containers are bound to a digital fingerprint of the device or computer on which the entitled license is running.

With Wibu-Systems' Universal Firm Code (UFC) already fully established with CmStick ME dongles used in the current solution, the switch towards a fully software-based system poses no problem with migration and system availability. One of the major benefits of UFC is to keep the underpinnings of the licensing and protection system compatible across software and hardware based environments. Additionally, with a centralized and uniform management, the new system offers greater functionalities to the user and to ABB Marine & Ports: CodeMeter License Central allows the secure deployment of new licenses for safer updates or upgrades to the modules and features of the OCTOPUS suite – a vital requirement in a system that depends on accurate real-time data for not only business-critical, but often physically dangerous operations.

The added versatility, flexible and secure upgradability, and still unparalleled protection standards ensured by CodeMeter with CmActLicenses open many new opportunities for ABB Marine & Ports. Truly unmanned vessels are a very real technical possibility if legislation and regulations keep step with the evolution of naval technology. The OCTOPUS suite already allows crew members to make safe decisions at sea with precise data about the movement of their vessels, the performance of their engines, and the influence of atmospheric conditions on their voyage. It only seems a minor step until intelligent ships will be using such systems to travel the high seas safely and securely without crew on board. Wibu-Systems helps lay the groundwork by protecting the systems and the complex data that could make this scenario a reality.

About Wibu-Systems:

WIBU-SYSTEMS AG (WIBU®), a privately held company founded by Oliver Winzenried and Marcellus Buchheit in 1989, is an innovative security technology leader in the global software licensing market. Wibu-Systems' comprehensive and award winning solutions offer unique and internationally patented processes for protection, licensing and security of digital assets and know-how to software publishers and industrial manufacturers who distribute their applications through PC-, embedded-, mobile- and cloud-based models.