Seizing the potential of certificates for securing the industry of tomorrow

IUNO2PAKT: Real-world solutions for safer industrial communication

Karlsruhe, Germany – IUNO, the German national reference project for IT security in Industry 4.0, returns with a second iteration under the name of IUNO2PAKT, new goals, and partners to offer a vast range of solutions meant to counter the cyber challenges Germany and the global community are facing on the cusp of the digital industrial revolution. Fraunhofer IOSB, the largest European research institution in the field of image acquisition, processing, and analysis, Hilscher, a prominent manufacturer and service provider for communication solutions and automation, Weidmueller, a world leader in the industrial environment of power, signal, and data, and Wibu-Systems, a pioneer in secure license management servicing any software powered business, have joined forces to empower enterprises in their digital transformation journey.

Recent developments have shown the elasticity, but also the fragility of global supply chains faced with a sudden and unexpected crisis: With smart factories and modern technologies like 3D printing adding much needed responsiveness, the breakdown of physical connections and human communication puts the reliability and security of digital communication in the spotlight. IUNO had already produced important advances in this area upon its conclusion in late 2018. Now IUNO2PAKT, the second incarnation of the initiative, sees its members pooling their expertise for a period of three years and publicizing the concepts, methods, and tools needed to install the backbone of a more resilient industrial landscape with an emphasis on usability in the real world.

Wibu-Systems has adhered to the IUNO2PAKT consortium with a commitment to harnessing the power of certificates for safer industrial
communication. Digital certificates provide the most desperately needed currency in these transactions: trust. Assigned by a trustworthy Certification Authority, certificates can act as proof of identity in machine-to-machine communication and smart factories, where applications, machines, and business systems need to be able to identify and communicate with each other, often in heterogeneous environments or across legacy networks. Their widespread use, however, has been held back by the sheer complexity of certificate management. Even if a solid certification process is in place, the risk lies in the passage of the certificate to the target machine or device.

Modern Global Discovery Servers (GDS) step into the breach to ensure that certificates are trusted by their recipient. For IUNO2PAKT, Wibu-Systems is enveloping this entire process with a novel addition to its CodeMeter security and protection universe: CodeMeter Certificate Vault.

The new approach sees certificates placed in the safe space of a CodeMeter license container, either a CmDongle as the physically safest container or its more intangible counterparts, a CmActLicense or a CmCloudContainer, respectively, the file and cloud-based counterparts. CodeMeter Certificate Vault is designed to work with Microsoft’s open-source GDS and OPC UA stacks like Unified Automation’s or the open62541 ANSI C stack, specifically to operate seamlessly within ecosystems that are already popular in the industrial automation world. Certificate Vault integrates with the SSL part of the stacks to create a multi-vendor platform for certificate storage and handling, thus lowering one of the hurdles for the use of optimal security technology in the context of OPC UA.

CodeMeter Certificate Vault is also integrated with CodeMeter License Central, the cloud-based license management system favored by clients for its ease of use, to guarantee a new level of convenience in
the roll out process of digital certificates. Ultimately, Wibu-Systems’ contribution to IUNO2PAKT raises the bar for trust and comfort in the world of digital certificates, making for an easier transition to a truly connected industrial world.

Marco Blume, Product Manager Embedded at Wibu-Systems, believes in the game-changing potential of certificates: “What stops many OPC UA users from utilizing their full security functions is the complexity in handling certificates. Wibu-Systems’ primary focus for this project is to automate that process by integrating CodeMeter Certificate Vault in mixed-vendor, heterogeneous OPC UA infrastructures.”
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