

## Press Release

October 16, 2019

Another Ware Co., Ltd.  
eSOL Co., Ltd.

### **Another Ware's OPC UA Toolkit for IoT Applications in Industry Now Runs on eSOL's eT-Kernel Functional Safety RTOS and eMCOS® Scalable RTOS**

～ OPC UA Toolkit for eSOL Provides Powerful Support for Use of OPC UA to Ensure Security and Safety in Industrial Equipment and Infrastructure ～

Another Ware Co., Ltd. (Headquarters: Yokohama, Kanagawa Prefecture, Japan, President: Sho Suzuki) and eSOL Co., Ltd. (Headquarters: Nakano, Tokyo, Japan, President: Katsutoshi Hasegawa), a leading developer of real-time embedded software solutions, today announced the release of OPC UA Toolkit for eSOL, which enables OPC UA Toolkit from Another Ware to run on eSOL's eT-Kernel TRON-based safety-critical real-time operating system (RTOS) as well as on its eMCOS new-generation scalable RTOS for multi-core, multi-processor applications. This simplifies and speeds up the development of client and server software that uses OPC UA both in industry and in water, oil, gas, and other infrastructure applications.



The OPC UA international standard for machine-to-machine communication protocols used in industrial automation is gaining prominence amid the increasingly rapid adoption of the IoT and Industry 4.0 for industrial applications such as FA robots and other industrial machinery. OPC UA enables interoperation between different operating systems (OSs) or equipments from different vendors, providing a reliable means of exchanging data in platform-independent environments without compromising security.

OPC UA Toolkit for eSOL is a software development kit (SDK) for OPC UA developed by Another Ware as part of a technology collaboration with Softing of Germany, a company that has been working with OPC for more than 15 years, supplying a wide range of products and services as a market leader in the OPC technology sector. The SDK significantly shortens development times by enabling the rapid integration of OPC UA connectivity functions into systems that use eSOL's eT-Kernel or eMCOS RTOSes. It facilitates and speeds up the adoption of IoT practices in both new and existing systems while also providing the real-time capabilities and safety performance demanded by industrial and infrastructure applications.

OPC UA Server software in industrial equipment has traditionally run on a conventional OS, and even when a product such as Embedded Linux or Windows Embedded is used, support has only been available for a subset of profiles (such as the Embedded Profile, Micro Profile, or Nano Profile). OPC UA Toolkit with eSOL, in contrast, can satisfy the demands of a wide variety of systems because it also supports the Standard Profile, something that has been increasingly demanded even in industrial applications.



OPC UA Toolkit is an SDK that facilitates the rapid and low-cost development of OPC UA servers using C/C++. It is already in use in a wide range of applications, having been chosen by factory automation and equipment vendors and manufacturers of heavy machinery among others.

eSOL's eT-Kernel TRON-based RTOS and its eMCOS scalable RTOS both have product certification at the highest safety levels (SIL 4 and ASIL D) available under the IEC 61508 standard for the functional safety of electrical/electronic/programmable electronic industrial systems and the ISO 26262 standard for the functional safety of road vehicles. Similarly, eSOL's RTOS development process has been certified as compliant with the IEC 62304 safety standard for medical device software.

## ■ Additional Information

### About eT-Kernel

eT-Kernel is an extended version of T-Kernel that features performance and functional enhancements and extensions to the TRON Forum distribution of T-Kernel. As an RTOS vendor, eSOL has incorporated technology and know-how acquired from  $\mu$ ITRON, providing features that include dramatically shorter system boot times, high-speed interrupt performance, faster task switching, a function for specifying the memory footprint in the configuration, abstraction of hardware-dependent code to a separate layer, and modularization to facilitate portability. It retains full compatibility with the TRON Forum distribution of T-Kernel. eT-Kernel is available in three different profiles to suit different system sizes and applications: eT-Kernel Compact, eT-Kernel Extended, and eT-Kernel POSIX. eT-Kernel Multi-Core Edition (MCE) is also available for use on multi-core processors.

▽ For more information, visit [www.esol.com/embedded/et-kernel.html](http://www.esol.com/embedded/et-kernel.html)

### About eMCOS

eMCOS is a scalable, certifiable RTOS for embedded systems that was the first product in the world to scale from single-core to multi/many-core processors. The use of a distributed microkernel architecture unlike that of previous RTOSs enables eMCOS to provide the scalability to support not only different numbers of cores, but also heterogeneous hardware configurations with different architectures such as microcontrollers, GPUs, and FPGAs. eMCOS also incorporates eSOL's proprietary semi-priority-based scheduling algorithm (patent numbers 5734941 and 5945617) that combines the real-time capabilities required for embedded systems with the high performance and scalability demanded by many-core processors. It also supports use of existing application development practices with the same programming model and interfaces for single-core and multi-core processors.

▽ For more information, visit [www.esol.com/embedded/emcos.html](http://www.esol.com/embedded/emcos.html)

### About Another Ware Co., Ltd.

Product lifecycle management (PLM), manufacturing execution systems (MES) and schedulers for optimal control of production, OPC UA for sharing data from plants and equipment via secure communications, and data science for the analysis of collected data by a “white-box” AI: Another Ware is a software company with advanced and cutting edge technologies for smart factories that offers a one-stop shop for solutions to the challenges faced by customers.

### About eSOL Co., Ltd.

Founded in 1975, eSOL is a leading company in the embedded systems and IoT sector that seeks to create a rich IoT society using its innovative computer technologies. eSOL's software platform products and professional services, centered around its real-time operating system technology, are used worldwide in every field, starting with automotive systems, which conform to the most stringent quality standards, and including industrial equipment, satellites, and digital consumer electronics. In addition to the research and development of its own leading-edge products, and joint research with major manufacturers and universities, eSOL is actively engaged in AUTOSAR and Multi/Many-Core technology standardization activities.

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