

eSOL's RTOS-Based Platform Supports

Armadillo-EVA 1500 Evaluation Board for Renesas's RZ/G1M MPU

Facilitates Rapid Low-Cost Development of High-Quality Software with Reuse of Existing TRON and Linux Assets

Tokyo, Japan. July 6, 2017 –eSOL, a leading developer of real-time embedded software solutions, today announced that its software platform based around eT-Kernel Multi-Core Edition, eSOL's real-time operating system (RTOS) for multi-core processors, now supports the Armadillo-EVA 1500 evaluation board made by Atmark Techno, Inc. for the RZ/G1M MPU of Renesas Electronics Corporation. This will facilitate the achievement of high reliability and real-time capability in software development using the Armadillo-EVA 1500, while also enabling the reuse of existing software that runs on Linux or TRON (including μ TRON and T-Kernel). eT-Kernel's compliance with relevant safety standards (IEC 61508, IEC 62304, and ISO 26262) makes it ideal for applications that demand high levels of safety, such as industrial robots or surveillance cameras.

The RZ/G1M has a dual-core ARM® Cortex®-A15 MPCore™ processor that delivers high performance (1.5 GHz max.). It is capable of sophisticated multimedia processing, incorporating a video processor with 3D graphics and Full HD video support, and high-speed interfaces that include USB 3.0 and PCI Express. Use of the Armadillo-EVA 1500, a commercially available evaluation board for the RZ/G1M, provides an easy way to get started on the testing and development of embedded systems with a wide variety of potential applications.

The eT-Kernel-based software platform includes eT-Kernel Multi-Core Edition as a key feature and incorporates the eBinder integrated development environment (IDE) bundled with ARM's own compiler and a range of middleware that includes USB host and device stacks, network protocol stacks, and file systems. It also includes professional services in the form of product services and contract development. eT-Kernel is made up of three scalable profiles, including a compact RTOS with a high level of real-time capability that has a similar structure to μ TRON, and a POSIX-compliant RTOS that is highly compatible with Linux. Its support for both the POSIX and TRON APIs means that existing software for OS's such as μ TRON, T-Kernel, and Linux can be reused. eT-Kernel has also demonstrated its ability to support a variety of GUI tools.

Using eSOL's Blended Scheduling® technology, eT-Kernel Multi-Core Edition is able to combine both AMP for guaranteed real-time capability and SMP for making the most of the excellent processing performance of the ARM® Cortex®-A15 MPCore™ processor. Tightly integrated with eT-Kernel Multi-Core Edition, the eBinder IDE provides powerful tools for the debugging and analysis of complex multi-core systems to enable the efficient development of high-quality software. It provides a highly reliable environment for development projects that satisfy the requirements of IEC 61508 (for industrial equipment) and ISO 26262 (for automobiles).

eT-Kernel has product certification for the highest safety levels under both ISO 26262 (for automobiles) and IEC 61508 (for industrial equipment) (ASIL D and SIL 4, respectively). eSOL has also obtained certification that its development processes for RTOS products comply with the IEC 62304 safety standard for medical devices.

"Adding support for Armadillo-EVA 1500 to the eT-Kernel platform facilitates the development of highly reliable software for the RZ/G1M, with the ability to reuse existing TRON and Linux assets. Drawing on our extensive experience with mission-critical applications, such as automotive and industrial equipment, and our past involvement with functional safety standards, eSOL provides comprehensive support for software development using the RZ/G1M," said Nobuyuki Ueyama, Executive Vice President of eSOL.