## BRX-WP001: Real-timeness, system integrity and TrustZone® technology on AMP configuration

Porcia, ITALY – Asymmetric Multi Processing on ARM processor is a highly requested feature in Multicore application. In this White Paper DAVE Embedded Systems describes how to generate an AMP environment where each cores is completed indipendent, "trusted". This result enable customers to create applications where process control and GUIs live (and survive) simultaneously on the same processor.

This white paper describes how to implement AMP on the DAVE Embedded Systems' SoMs based on Xilinx Zynq Application Processor. These SOMs are called:
- BORA based on Zynq XC7Z010/020
- BORA Xpress based on Zynq XC7Z015/030
Both of them have on board NOR SPI flash, RAM DDR3 and NAND SLC Flash. Additionally these platforms are designed for industrial usage with high retention connectors within 420 pin connections.

The white paper describes in detail how to create an AMP environment with dual operating system (Linux and FreeRTOS) one per each core that works indipendently. This results, obtained thanks to TrustZone®Technology permits to use these results in real industrial applications where the Industrial Process Control (IPC) is configured as Master running on one core (typically a Real Time core) and the Graphical User Interface (GUI) configured as Slave.

With this configuration, any failure/break on the Slave side will not effect the Master operations. This is an important result for AMP configuration. DAVE Embedded Systems is proud to announce this result on its solutions. This result testify the DAVE Embedded Systems' attitude to provide customers with latest HW and SW technologies in the embedded world.

Last but not least, in the white paper is also described the next step on AMP: the possibility to stop and reboot the Slave core from the Master core. " The DAVE Embedded Systems team is working on daily basis for the research and development of new technology for the Embedded World" says Manuele Papais, Sales and Marketing Manager, "The Xilinx SoCs with the AMP configuration represents the best solution for any industrial application. Time To Market is drammatically reduced with this approach thanks to DAVE Embedded System' HW and SW solutions".

"DAVE Embedded Systems is a key Certified Partner within the Xilinx Alliance Partner program with their ZYNQ 7000 Bora SoMs implementing an AMP environment running two independent Operating Systems," says Mark Jensen, Director of Xilinx Corporate SW Strategy and Marketing.

White paper is available at the following link:
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**Trademark:**

DAVE Embedded Systems is a well-established and constantly growing Italian company, focused on designing, manufacturing and selling of miniaturized embedded systems solutions. Since its foundation, back in 1998, DAVE Embedded Systems has developed its business, increasing its know-how and activities. Support and assistance provided to many Italian and foreign companies mainly concerns the design of microprocessor platforms, based on Linux, Windows or Android. DAVE Embedded Systems provides CPU modules solutions or System-On-Module (SoM) based on the latest technologies (e.g. Multi-Core ARM Cortex, PowerPC and X86) for the typical high-end markets such us medical and automotive.