HENSOLDT Cyber

Press Release

Taufkirchen, May 15th 2020

HENSOLDT Cyber presents MiG-V, the first RISC-V Processor „Made in Germany" for Security Applications

Highly secure RISC-V RV64IMAC processor enables customers to build connectivity-oriented security applications in areas like the Internet of Things.

TAUFKIRCHEN / Germany, May 15th, 2020 – HENSOLDT Cyber GmbH, a developer of highly secure embedded systems for the IT market, announced that it successfully designed and produced the first RISC-V processor „Made in Germany". Named MiG-V, it addresses the security needs of connectivity applications in areas like the Internet of Things.

MiG-V is protected against malicious manipulations during design and manufacturing via advanced logic encryption. This way, Kill Switch threats like hardware Trojans are excluded, creating a secure solution for interfaces, production chains and other secure systems.

The core of the MiG-V is based on the CV64, an open-source RISC-V core developed by ETH Zurich, originally named Ariane. It is implemented as an RV64IMAC with a 64-bit integer CPU and standard extensions for integer multiplication and division (M), atomic (A) and compressed instructions (C). It is produced using a 55nm CMOS process. The design was supported by Chief Scientist Prof. Rainer Leupers from RWTH Aachen University.

Connectivity Oriented Peripherals

The MiG-V system-on-chip integrates 1 MB of internal SRAM, 2 MB Flash memory and an SDRAM controller with a clock speed of up to 100 MHz. Communication interfaces include two 10/100 Mbps Ethernet MAC controllers, one QSPI and three SPI controllers with up to 30 MHz and one SPI slave interface with up to 40 MHz, as well as three UART controllers and one I^2C controller. The chip operates at 3.3V supply voltage.

„MiG-V is a milestone in the development of general-purpose embedded processors, because it helps to create a secure IT instead of IT security, "says Sascha Kegreiß, CTO at

HENSOLDT Cyber. „Together with TRENTOS-M, our seL4 microkernel-based operating system, customers can design systems in various areas with a built-in security level hardly ever achieved before. "Kegreiß adds.

Initial tests were completed successfully, and further integration and detailed evaluations are underway. Once completed, the start of the mass production of the MiG-V processor will be scheduled.

For more information about HENSOLDT Cyber's MiG-V: https://hensoldt-cyber.com/mig-v

About HENSOLDT Cyber

Founded in 2017, HENSOLDT Cyber GmbH is a German company based in Taufkirchen near Munich that develops embedded information technology products meeting the highest security requirements. These integrate a highly secure operating system with security hardened hardware, thus creating a secure IT instead of IT security for the global IT market. The company combines more than 50 years of experience in defense and security electronics of the HENSOLDT Group with world-class expertise in hardware and software development. HENSOLDT Cyber currently employs around 40 people at various locations.

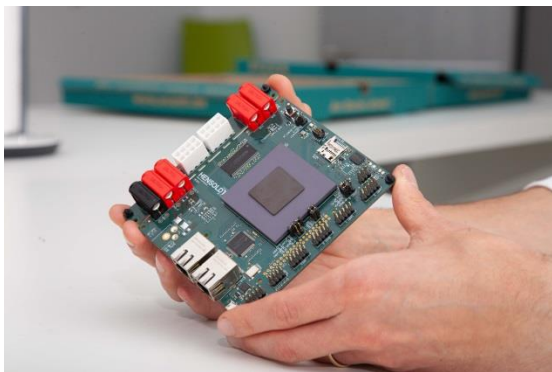Further information about the company can be found at www.hensoldt-cyber.com

Photo caption 1:
HENSOLDT Cyber MiG-V processor

News

Photo caption 2:
Marian Rachow, CEO
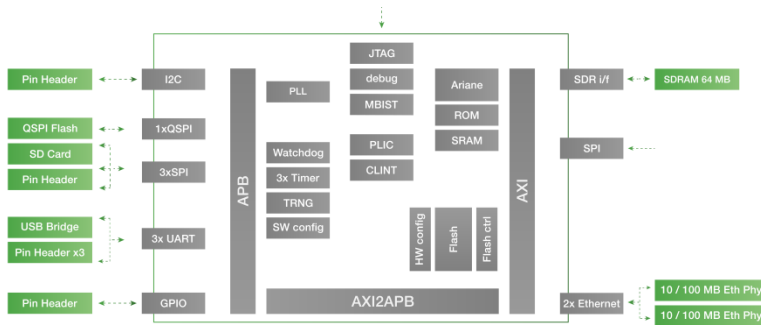Sascha Kegreiß, CTO

Photo caption 3:
Block diagram of HENSOLDT Cyber MiG-V processor

Fotos: HENSOLDT Cyber

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