

Kontron's HPEC Solution Enables Next Generation High Bandwidth Applications

Germany 27th January – Kontron's 6U VPX High Performance Embedded Computer (HPEC) is being used for a new generation of surveillance radars. The HPEC system can process an input data flow ten times higher than the equipment which is currently deployed. The customer, a leading international electronics and systems group, relied on Kontron's extensive hardware, software and design services to minimize time-to-market and improve application quality for its next-generation radars. The Radar core computer, which was designed in less than 20 weeks, is based entirely on Kontron VPX products and services. The system currently operates under Linux and does not require the use of proprietary APIs. The highest level of communication bandwidth is achieved through classic Linux and TCP or UDP sockets based on PCI Express physical layer. The socket interface is implemented as a kernel module and also manages the low level PCI Express silicon and DMA engines. This technology, called Kontron VXFabric™, simplifies the task of inter-system communication in VPX system architectures thanks to a set of ready to use libraries and kernel modules. The libraries and kernel modules expose the ubiquitous socket API for data flow applications to implement efficient inter-board communication at hardware speed. By decoupling the application software from the low-level silicon management, Kontron VXFabric™ simplifies and accelerates application development and helps to extend application lifecycles, as it enables migration to upcoming communication standards such as 10G and 40G Ethernet for the backplane.

"With this approach, our customers are getting the best performance at a very competitive price, thanks to the choice of PCIe which does not require expensive or complex dedicated hardware. On top of this, they also profit from very low application development costs, due to the fact that standard communication objects such as sockets are used which most programmers are familiar with. In the end, what they get from Kontron is the easiest path to a new era of embedded computing now deploying with VPX solutions." explains Dirk Finstel, CTO of Kontron.

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