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I/O Co-Processor Environment Development

Client

Aquila Technology Group, Inc, is a major supplier to government and industry worldwide, specializing in industrial controls, safeguards surveillance and seals, computer systems, and secure computer networks. Aquila supplies nuclear safeguards products to government and industry worldwide including the development, manufacture, sale, and maintenance of all equipment. Aquila also manufactures containment seals and is involved in replacement seal technology development.

Solution

The IOCP (I/O Co-Processor) software program facilitates development of hardware device drivers and generic I/O handlers on the Intel 960 processor used as an I/O co-processor in VME Alpha computer running under DIGITAL UNIX. The software comprises several layers:

- the iocpxx generic pseudo-driver implements access to the hardware and allocates physical memory;
- C interfaced library is layered upon the iopxx driver, providing, in turn, base for utilities and user applications development.

Cross-tools, running on Alpha under DIGITAL UNIX, allow for writing code for the co-processor in C and symbolic debugging. Resident code on the co-processor side implements interface to key-oriented registering and invocation of user services (driver entry points).

Auriga's Contribution

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Implementation

DIGITAL UNIX running on VME Alpha64 computer, C/C++.