



## Writing IPm™ Applications

SIXNET has made it easy to create your own application programs to run on an IPm controller or RTU. The interface between your programs and the existing IPm firmware is very simple and quite flexible. Your programs will run efficiently and in coordination with other IPm applications. Also, the development tools are low cost and easy to use.

### Shared Resource I/O Database

At the heart of the IPm controller is a “shared resource” I/O database – basically a data structure (complex array) of I/O registers that all applications read and write I/O values. The I/O polling tasks exchange I/O values with physical I/O and registers in other controllers (peer moves). Applications such as ISaGRAF and Sixlog datalogging interface with this database as well. Your applications simply exchange register values through simple function calls. In this manner, your programs can interact with all existing IPm functionality as well as other applications written by third parties.

SIXNET supplies the interface library to this I/O database as well as other resources in the IPm controller, such as the real-time clock and communications ports. In addition, SIXNET web resources will give you access to the GPL (general public license) source code and documentation for various elements of the IPm firmware. Access to these resources will be provided to licensees of the “IPm Advanced” licensing option for the SIXNET I/O Tool Kit software.

### Choice of Tools and Languages

In the true spirit of open systems, SIXNET has taken great care to maintain the open and accessible nature of this LINUX-based environment. You may add your own LINUX applications to the IPm controller using any of the programming languages supported by the GNU development tools, including C, C++, Fortran and other languages.

As part of the “IPm Advanced” licensing option, SIXNET supplies a Windows IPm Application Development Kit (IADK) for installing the PowerPC cross-compiler compiler and the other files you need on your Windows computer. The SIXNET I/O Tool Kit will load your applications into the target IPm controller as well as manage the script that will start your programs in the proper sequence and in your intended manner.

Of course, LINUX users may accomplish the same functions using a standard LINUX development environment as well. SIXNET supplies a Linux IPm Advanced Development Kit for IPm cross-compiling as part of the same “IPm Advanced” licensing option. It is important to note that both the Windows and LINUX development environments supplied by SIXNET will produce identical code.



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