RTDS Technologies

POSITION DESCRIPTION

Position Title:	**Embedded Systems Software Engineer**
Department:	**R&D Applications – Protection & Automation**
Reports to:	Manager, Protection & Automation

To apply, please send a cover letter & resume to Claudia at claudia@rtds.com.

We thank all interested applicants; however, only those considered for interviews will be contacted.

Overview

The Embedded Systems Software Engineer in the Protection and Automation group (P&A) will participate in the design, coding, testing and documentation of real–time embedded software for new and existing products designed for power systems communication protocols that will be incorporated into the RTDS real-time Power Systems Simulator.

Position Responsibilities

- Work closely with the engineering development team tasked with development of embedded software for substation automation protocols.
- Participate in the design, coding, testing and documentation of real–time embedded software for new and existing products designed for power systems communication protocols.
- Provide domain expertise with the functionality of new and existing embedded firmware and FPGA fabric for products in the RTDS Simulator.
- Perform SOC and/or FPGA design and verification.
- Combine custom logic, generate IP cores and hard IP blocks to meet design requirements.
- Support system integration and verification.
- Support and enhance P&A designs already in production.
- Follow and develop quality assurance and quality control procedures/scripts for P&A related products.

Qualifications

Requirements
- Minimum Bachelor of Science degree in Electrical Engineering, or equivalent experience.
- Ability to follow development schedules and work as a member of a multi-disciplined development team.
- Excellent communications skills both with written word and speech in English, a second language will be considered an asset.

- Experience working with C-based software in a real-time operating system (RTOS) such as VxWorks or QNX.
- Understanding of Networks, Switches, VLANs, Firewalls, etc.
- Experience with packet sniffing tools such as Wireshark.
- Experience with maintaining and releasing of software and firmware in a production environment using CVS or other versioning tools.
- Experience with all phases of the FPGA development process (coding, simulation, implementation, verification, debug).
- Knowledge of digital logic design principles and FPGA and SOC architectures.
- Experience using VHDL.
- Experience using the Vivado FPGA development tools from Xilinx.
- Experience with embedded SOC.
- Must be willing to relocate to Winnipeg, Manitoba.

Assets
- Experience with Xilinx Multi-gigabit transceivers.
- Experience with connectivity protocols such as Ethernet, TCP/IP, I2C/SPI, UART and others.
- Experience with time synchronization protocols such as IEEE 1588 PTP, NTP, and IRIG-B.
- Experience with Power System protocols such as (IEC 61850, DNP, 104, PMU, Modbus).