TetraViews
Monitoring and Control Information

Winter 2005
www.tetragenics.com

Putting You in Control!

SCADA Automation Communications Hydroelectric

MSE-Tetragenics Debuts New G4 CPU

G4 Series CPU VMEbus Microprocessor Adds Power and Performance

The MSE-Tetragenics G4 Series Central Processing Unit (CPU) is a VMEbus microprocessor computer board that interfaces to our input/output (I/O) bus. Designed to replace our plant control systems using the FORCE line of microprocessors, the G4 features advanced software on the board and provides the following capabilities:

- Ethernet
- Intranet/Internet
- dial-up with 32-bit protected mode processing
- built-in diagnostics
- critical alarm upgrading
- security
- multi-region/number callout
- multiple download options
- electronic CPU printing
- email notification

The G4 offers powerful features as well as supporting the functions associated with the MSE-Tetragenics Plant Control Systems (Load, Volt, Pond, VAR/VAR Balancing Control, and Synchronization). On large, complex systems, the dual CPU option can be used for added horsepower.

The G4 comes packed with standard on-board features to enhance the system: Ethernet, dual serial ports, one Wide Ultra SCSI port, it is configured to operate the Linux OS with symmetric multiprocessing (SMP), and you can poll other intelligent devices across the Ethernet link or the serial ports.

The G4 Series CPU VMEbus Microprocessor adds power and performance to your plant control system

The G4 offers CPU speeds up to 500 MHz, a 100 MHz memory bus, exceptional Peripheral Component Interconnect (PCI) bus performance, and two PCI Mezzanine Card (PMC) sites for maximum I/O flexibility. The board features advanced vector parallel processing, a 2 MB L2 backside cache, and very low power consumption.

continued on page 2...

Special Update Issue

Out and About - Water and Wastewater SCADA System - Galen Campus

The city of Galen's water and wastewater system on the Galen Montana Campus was due for improvements. The campus houses several group homes, a new juvenile detention center, and new storage and wastewater equipment. We installed Remote Terminal Units (RTUs) at the tank and well house and a new SCADA system at the wastewater treatment plant. The system monitors and controls the level of drinking water in the storage tank and monitors the status of the wastewater treatment plant.

The RTUs at the well houses monitor the tank level and adjust it automatically according to established set points. The SCADA system communicates to the RTUs using license-free spread spectrum radios --there is one master radio at the wastewater treatment plant and three slave sites.

The system also includes a computer workstation that allows the operator to view the system or dial-in from a remote location to view the water and wastewater processes over the Internet. The SCADA system posts the plant status and parameters to a secure website. For emergencies, the system includes a remote alarm dialer to notify operators of system failures. We also provided all the training for Galen Campus personnel to use the new Water and Wastewater SCADA System

TetraViews
Published by MSE-Tetragenics to provide useful information about products, corporate news, and industry events. Send comments to the editor at contact@mse-ta.com.
Editor: Ruthmeri Gleason, **Newsletter Staff:** June Tangaro, Jeff Hartwick

MSE TG Tetragenics

G4 Series continued from page 1...

The G4 Series CPU VMEbus microprocessor computer board offers proven performance and functionality:

- **Plant Control System**
- **Industry Adaptable**
- **Millisecond Time Stamping**
- **Multiple Protocols**
- **HMI functionality**
- **Internet/Intranet Ready**
- **User-Defined Logic/Control Sequences**
- **Auto Generated Screens**
- **Ethernet Polling**
- **System Editors**
- **Trending**
- **Email Alarm Notification**
- **Custom Modules**

For more information and specifications on the G4, visit www.tetragenics.com and the datasheets page.

ACOE Meter Replacement

In 2004-05, MSE-Tetragenics upgraded systems in hydroelectric plants operated by the Army Corps of Engineers, Nashville District. For the project, we updated three existing MC3000 SCADA, PC-based, Master databases and provided two new masters to monitor and report Kilowatt-hour data gathered via DNP3.0 protocol from Tennessee Valley Authority Telegyr remote terminal units communicating with JEMSTAR Meters. The masters are located in hydroelectric plants in Tennessee and Kentucky. The three existing masters were originally installed in 1999-2001 and communicated with JEMII meters. These masters monitor and control one or two hydroelectric plants each via MSE-Tetragenics' remote TG332-based Plant Control Systems. One master is a dual hot-standby system using our Model 62 Intelligent Switching Module.

Teamwork . . .
why it works

Have you ever watched a flock of geese flying in their traditional "V" formation? It turns out that each bird, by flapping its wings, creates an uplift for the bird that follows. Together the whole flock gains about 70 percent greater flying range than if they were journeying alone.

MSE-Tetragenics
65 East Broadway
Butte, MT 59701

MSE-Tetragenics
406-533-6800
Visit our Web sites at www.tetragenics.com and www.mse-ta.com for expanded articles and information.