

# Acquiring Data Across Networks using USB-7202

## Introduction

Veritium Research LLC is a leading provider of test and measurement equipment, signal analyzers, and real-time Internet based data virtualization solutions. They serve a variety of industries including; Biomedical, Industrial, Aerospace, Defense, Automotive, Consumer, and Energy.

The company's VeritiumLive™ Web Network enables companies across a wide range of industries to visualize, in real-time, signals and data anywhere in the world via personal computers, PDA's, and smart phones.

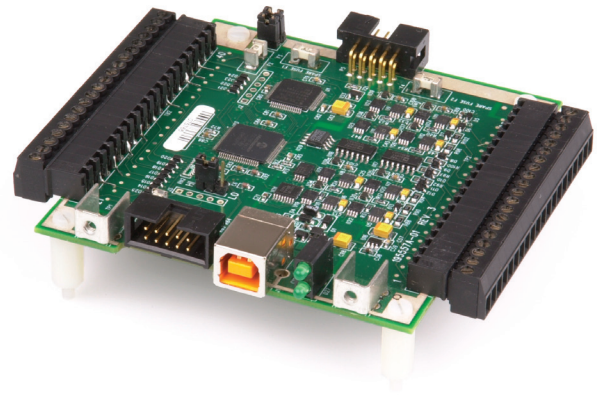
## Challenge

Veritium Research needed to create a turnkey system to enable customers to easily connect their existing equipment to the Internet for remote monitoring. The system needed to be able to provide real-time remote monitoring of industrial, scientific, and medical devices as well as telemetry and signal analysis applications. Although some of the customer's devices were already web-enabled and easily configured for use with the VeritiumLive™ Web Network, many legacy devices were not. Customers began asking for an easy way to connect their non-web-enabled equipment to the Internet to allow the devices to be monitored remotely. The system would have to feature both digital and analog interfaces to accommodate the diverse requirements of customers in multiple industries.

## The Solution

Veritium Research chose the Measurement Computing USB-7202 USB-Based DAQ board instead of developing its own analog front end. Programming the unit was achieved through the use of the included DAQFlex software framework. DAQFlex uses a simple, message-based programming interface and all operations are programmed through a common command interface. The API features easy-to-learn methods which allowed Veritium to greatly reduce its time-to-market.

Any combination of analog and digital signals may be connected to the Model 8000. The instrument provides 8 analog inputs (expandable to 24) with synchronous sampling rates ranging from below 100 Hz to over 1000 Hz.



*The USB-7202 is ideal for OEM and embedded applications. The included DAQFlex software framework is compatible with multiple operating systems including Windows® 32/64-bit, Linux®, and Mac®.*

DAQFlex, an OS-independent, open-source software framework, can be used with multiple operating systems and includes one programming API which supports all platforms. DAQFlex uses a simple message-based programming interface and features full DAQ functionality with easy-to-learn methods.

## Result

Veritium's main goals were to improve measurement efficiency, accuracy, fidelity and to greatly simplify the process of visualizing data remotely.

The Model 8000 Network Interface Unit and VeritiumLive™ Web Network form a complete turnkey system designed to easily connect customer equipment to the Internet. Data is automatically routed to the VeritiumLive™ Web Network for real-time remote viewing, processing, and archiving. The system connects to the Internet via an internal Ethernet port, wireless connection, or optionally through the latest Wireless 3G Cellular Network.

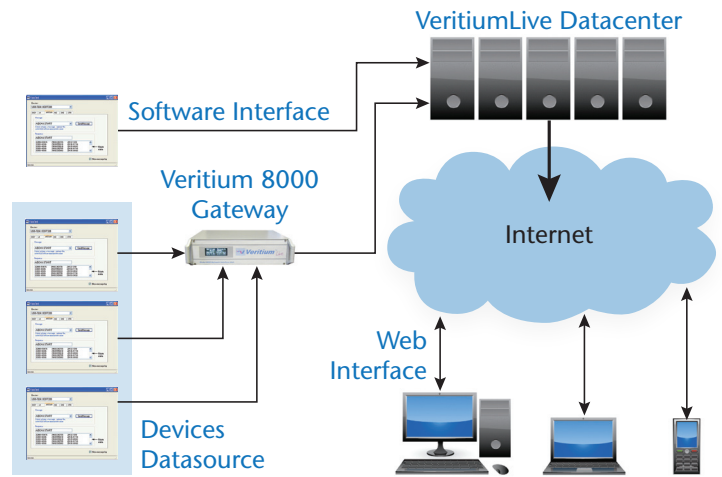
Legacy equipment can be easily connected to the Internet for viewing over the World Wide Web. Any combination of analog and digital data may be

combined for presentation on the client side. Data from multiple units in various geographic regions may also be routed to a single client page if desired.

Veritium used Measurement Computing's COTS USB-7202 DAQ board to quickly and easily develop a robust and feature-rich solution for their customers. The USB-7202 was selected because of its hardware capabilities and the small footprint software framework which greatly simplified application development, making it ideal for OEM and embedded applications.

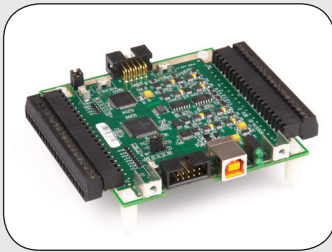
### Author Information

**Authors:** Gino Morello, Manuel Rodriguez  
Veritium Research LLC  
520 Main Street  
Fort Lee, NJ 07024 USA  
www.veritiumlive.com



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### MCC Product used in this application:



#### USB/104-BASED DAQ MODULE USB-7202

- Platform-compatible with Windows® 32/64, Linux®, and Mac®
- USB/104 form factor
- 8 channels of 16-bit analog input
- 100 kS/s max total throughput (200 kS/s Burst Mode), 50 kS/s on any one channel
- Simultaneous sampling (1 A/D converter per input)
- 8 digital I/O lines
- One 32-bit event counter