

# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

Volume 17, Issue 2 • Fall/Winter 2007

A Publication of Sage Designs, Inc.

### Sage Designs Now Offers FreeWave Radios



Constantly on the lookout for quality products for the SCADA industry, Sage Designs is now carrying the FreeWave line of radios which includes both spread spectrum and licensed radios.

Renowned for their unparalleled performance and durability in even the harshest of conditions, FreeWave spread spectrum radios remain the trusted choice of military, government, industrial and municipal customers who depend on "communication without barriers."

FreeWave Technologies provides wireless data radio solutions around the world. Customers rely

on FreeWave products in life and death military applications as well as mission critical, industrial, municipal, utility and recreation applications. The unmatched quality, versatility and reliability of the FreeWave radios support uses in locations ranging from the Middle East to Mount Everest; from the Permian Basin to the Amazon Rainforest and from Antarctica to New York

FreeWave radios are tested in their world-class manufacturing facility in Boulder, CO. 100% of FreeWave radios are tested through 6 quality steps before shipping. Tests include: temperature testing from -40° to +75°C. Every radio also completes "real world" data communication. Because of its unwavering commitment to quality and customer service, FreeWave is the only company of its kind to offer rigorously tested radios that are 100 percent backward-compatible and are backed by a 2-year warranty.

Not only are FreeWave radios the best-in-class, but that quality is backed by an unsurpassed

### Vicon Cameras & DVRs



Due to the ever increasing need for security of infrastructure, there has been a move in the water and waste water industries to add surveillance systems to their facilities. Even if you feel there is little threat of terrorist attacks on your systems, theft and vandalism have increased over the years to the point where the purchase and installation of such equipment can pay for itself in real dollars and not just in the comfort factor.

Since its founding in 1967, Vicon has specialized in the development, production and sale of sophisticated video systems principally for high-end security and surveillance market applications. In over 40 countries, Vicon products and systems have been utilized by users to safeguard and protect people and assets.

ViconNet, Vicon's digital video management software, provides a fully integrated, network-based solution that can combine both analog and digital equipment. As a full systems provider, Vicon offers

### SCADAForum Introduction

Control Microsystems is pleased to announce SCADAForum, a fully interactive, virtual meeting place for all users of Control Microsystems products. Come share your innovative ideas, ask or answer those tricky technical questions, or simply shoot the SCADA breeze with our technical staff and other customers from around the world.

With a powerful search engine feature, SCADAForum becomes an invaluable resource for detailed technical information and for tips or suggestions that can help guide you along your development path with confidence. Our technical staff has already started the ball rolling with many interesting and

pertinent SCADA topics, and will continue to contribute regularly as new topics arise.

You don't need to become a member to take advantage of SCADAForum, simply use this hyperlink found at <http://scadaforum.controlmicrosystems.com/forum/index.cfm?forumid=5> and check it out. If you like what you see and want to post your own material, from the SCADAForum home page, click on the "Join CMI Forums" hyperlink and create your account. It's that easy!

SCADA technology is constantly changing. Keep on top of change with SCADAForum.

network design and 24/7 emergency technical support. Founded in 1993 and privately held, FreeWave blends unsurpassed technical product know-how with comprehensive engineering to provide complete

solutions for diverse needs in industries such as oil & gas, utilities, security and recreation.

**FreeWave is currently offering special competitive upgrade pricing. Please call for a quote.**

a wide range of DVRs, NVRs, IP and analog cameras, encoders, decoders and a new virtual matrix controller for use with ViconNet version 4.0.



We have also had good success in the integration of Vicon cameras with other camera management software such as the PureActiv™ product from PureTech Systems. This adds sophisticated video analytics to help detect real threats while avoiding false alarms so often associated with video surveillance systems.

### Inside This Issue

- ClearSCADA Seminars
- DNP3 Training Seminar
- Training Classes
- Win-911 News
- Data Integrity with DNP3
- Security Convergence
- CMI SCADA Forum
- Sentry Track Data Portal

## Ensure High Data Integrity with DNP3

It is not uncommon that Municipal customers use Modbus as basis for their telemetry protocol; however, this protocol has limitations with respect to data integrity as Modbus does not support time-stamp data and events are dependant on communications poll cycle. In addition, Modbus protocol is not, by design, a report-by-exception protocol. The protocol simply allows for the host to poll a device for particular Modbus register(s) and record the data. It is truly a Master/Slave protocol.

The general method for overcoming these issues is to configure custom programmed data logging in the PLC, so if communications to the host is interrupted, the data is retained in the controller. This is fairly easy to implement using array functions and the PLC real-time-clock to time-stamp the data, but it is very difficult using Modbus to map this into registers that the SCADA host can dissemble since Modbus does not support file transfer or time-stamp data.

Although it is possible to establish arrays within the PLC to save data from particular device registers (or inputs) in the event of lost communication, there is no particular way to efficiently read the arrays using Modbus protocol. A typical Modbus poll, for example, would read registers 40001 thru 40060. How would saved data be mapped in a manner that could be efficiently read

by Modbus? As the protocol does not support file transfer, a talented programmer would have to save data and then serve it up again in a format that the protocol could manage.

Add time and date stamping for all variables and "events," then this task becomes a very programming-laden task, if possible at all. The custom programming required to even attempt this, becomes truly proprietary, completely defeating the goal of open protocols and connectivity. In addition, its initial complexity and cost, as well as the continuing life cycle cost of this approach, becomes more expensive and complex for both the end user and the integrator. Although the system will work, the end user may not be able to support it and the continuing costs and reliance on highly talented programmers, whether integrator or end-user, could be significant.

The standard that is gaining momentum in the Municipal water/wastewater market is adoption of DNP3 protocol for telemetry. This protocol is an open IEEE standard and widely used in power utility market as it solves all of the data integrity issues as described above. It supports Master / Slave communication much like Modbus; but, in addition, supports event data and exception reporting using PLC/RTU clock for time-stamp. When communications is interrupted,

the RTU will automatically log the events into buffer(s) without any customized user programming.

To increase bandwidth on radio links Inherent in DNP3 protocol is the capability to improve polling regime to reduce the communication bandwidth on the system and also provide assurance that critical events are reported promptly due to the poll cycle time. The native data buffering within DNP3 level 2 protocol ensures that no data is lost.

Using Modbus, you would calculate typical cycle poll time based on number of RTUs, radio key-up time and amount of data "read" from each RTU. As Modbus is unsophisticated, all data must be read on each poll cycle. If 40 seconds is allowed for key-up and transmission of variables and there are 200 sites, the poll cycle time would be 133 minutes to communicate with all stations. Once every two hours. Any events that occurred within the 133 minute poll loop would be missed by the SCADA system, because there is no means for the PLC to "know" communication is down or, to accommodate this condition. This means it has to data log everything, whether communication is good or not. Even if poll time for each device were 8 seconds, the poll cycle time for all 200 sites would be about 27 minutes.

With no custom programming or functionality specific to a device, the system administrator could schedule

a background or integrity poll set at 1 hour allowing plenty of time in-between for critical events to be unsolicited (Report-by-exception) to the SCADA host. Each point in the PLC/RTU is allocated to a DNP3 Class, which can be one of Class 0, 1, 2 or 3. Class 0 is static data (Current value) and Classes 1, 2 and 3 are for event data. (The user can also configure the RTU to not send unsolicited events, but to buffer them and wait for an event poll.)

Class 1 is generally used for critical events and configured to be sent immediately to the SCADA host. Class 2 is less critical and customer may decide that 25 events or 15 minutes (whichever occurs first) is the trigger for upload to the SCADA host. Class 3 may represent status update only and configuration will allow 100 events or 60 minutes before data is sent to host. The number of events and hold period per class are user configurable.


In addition, DNP3 level 2 supports unsolicited messaging, collision avoidance and includes data quality attributes in the message, whether polled or unsolicited. All of this functionality is accomplished with no custom programming.

The standardization on DNP3 by the electrical utilities, companies with far greater capital investment in assets and potential for lost revenue, is testimony that DNP3 can provide

*Continues on Page 6*


# DESTINATION: INTEGRATION WITH VICONNET® 4.0

VERSION 4.0



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- Optional Virtual Matrix client allows you to display any feed on any monitor... anywhere on your security network.
- Take control from either your PC's intuitive graphical interface, or your CCTV keypad.
- Allows decoding of ViconNet IP to analog composite, VGA, and S-video.
- Assemble groups of cameras from any device for easy location and camera call-up.
- Alarm reports via email and/or text messages.
- View the live feed at one FPS rate; record at another.

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➤ FOR MORE INFORMATION ABOUT VICONNET OR VICONNET ENABLED PRODUCTS, CALL US TODAY AT 1-800-34-VICON OR VISIT US ONLINE AT VICON-CCTV.COM

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# Free SCADA Seminars

## Distributed Network Protocol

### DNP3 Seminar

November 28, 2007

Holiday Inn Express

160 Shoreline Highway (Hwy 1)

Mill Valley, CA 94941

8:00 AM – 4:30 PM

The Control Microsystems one-day DNP3 Training course was developed with working engineers and technicians in mind. It first presents the basic concepts of the Distributed Network Protocol in a clear and straightforward way. It then guides the students through the practical configuration of several types of DNP3 networks. Throughout the day the students will be exposed to common configuration errors and learn useful troubleshooting techniques.

To premier this new Control Microsystems training course, we are bringing the seminar to you at no charge; future courses will be fee-based. To take full advantage of the this event, you will need to bring a Laptop Computer with a minimum of Win 2K or XP with 1GB of free disk space, 512MB RAM (1 GB preferred), CD ROM, mouse with a scroll wheel, and working RS232 serial port. You must have software permissions/passwords to install course software on your PC.

Taught by Joel Weder, Control Microsystems' Training Development Leader & Support Specialist, this seminar is a must for anyone planning to implement or own a DNP3-based SCADA system.

## ClearSCADA

### Hands-on Evaluation Seminar

October 30, 2007 – Milpitas, CA

November 1, 2007 - Buena Park, CA

Control Microsystems' ClearSCADA Support Specialist, Ian Metcalfe, will conduct a ClearSCADA hands-on evaluation seminar designed to introduce you to some of the range of capabilities that the HMI software offers. Students will have an opportunity to hear about and try for themselves many of the features in ClearSCADA that set it apart from other SCADA software on the market. This is a must for those wishing to evaluate ClearSCADA in a short time. Computers and RTUs will be provided for your use. The event will start at 9AM and wrap up between 3-4PM.

We will discuss, demonstrate and receive hands-on experience with:

- ClearSCADA architecture
- Security
- Object based SCADA
- Vector based graphics
- Roll out new templates
- Connection to the RTU
- Point Attributes: alarming and logging
- Critical alarms and business rules
- Advanced alarming
- Zero configuration WEB clients
- Embedded lists
- Integrated reporting
- Trending and analysis tools
- Integrated EFM Management

Download the Registration form at: <http://www.sagedesignsinc.com/events/index.htm>

*Pre-registration Required*

## Registration Form

Complete and fax to 1-888-FAX-SAGE or 415-331-8969.

I would like to attend:

- ClearSCADA seminar on October 30, 2007, 9AM-4PM (Milpitas, CA)  
 ClearSCADA seminar on November 1, 2007, 9AM-4PM (Buena Park, CA)  
 DNP3 Training Seminar on November 28, 2007, 8-4:30PM (Mill Valley, CA)

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Company: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Hotel Directions can be found at: <http://www.millvalleyca.hiexpress.com/directions.html>

*There is no charge for this event, but we would appreciate a call if you need to cancel your reservation.  
Seating is limited.*

# Training Classes

## ClearSCADA

## SCADAPack

### ClearSCADA Training Course

**December 4-7, 2007 – Mill Valley, CA**  
**February 26-29, 2008 – Buena Park, CA**  
**May 20-23, 2008 – Mill Valley, CA**  
**August 12-15, 2008 – Mill Valley, CA**

Day 1 8AM - 4PM Installing ClearSCADA, Introduction to ClearSCADA, Components, Using ViewX, Using WebX, ClearSCADA Help

Day 2 8AM - 4PM Configuring using ViewX, Database Organization, Basic Telemetry Configuration, Creating Mimics, Creating Trends

Day 3 8AM - 4PM Configuring using ViewX, Templates & Instances, Logic Languages, Security, Communications Diagnostics

Day 4 8AM - 4PM Reports, System Configuration, System Architecture, Questions

**Cost:** ClearSCADA Training Course \$1,800

### SCADAPack & TelePACE Training Classes

**November 7-9, 2007 – Mill Valley, CA**  
**February 6-8, 2008 – Buena Park, CA**  
**May 14-16, 2008 – Mill Valley, CA**  
**August 6-8, 2008 – Mill Valley, CA**

*An optional SCADAPack or SCADAPack32 is available at a special price\* with the course—an excellent way to get started using Control Microsystems' Controllers.*

Day 1 8AM - 4PM SCADAPack controller operation, Series 5000 I/O, TelePACE introduction

Day 2 8AM - 4PM TelePACE advanced programming techniques and advanced functions

Day 3 8AM - 4PM Controller communications, Modbus Master/Slave protocol, Diagnostics, Modems

**Cost:** SCADAPack TelePACE Course \$1,125

- \* Optional SCADAPack2 Training Kit – adds \$990
- \* Optional SCADAPack 32 Training Kit – adds \$1,060
- \* Optional SCADAPack Training Kit – adds \$970

**Instructor:** Tony Sannella, Sage Designs, a Control Microsystems' Factory-certified Instructor.

**Location:** Holiday Inn Express, 160 Shoreline Highway, Mill Valley, CA 94941. Those requiring overnight accommodations should call the hotel directly for reservations at 415-332-5700.

**What should I bring?** Laptop computer with minimum of Win 2K or XP with 15mb free disk space, CD ROM, mouse with a scroll wheel, working serial port, and necessary permissions to install software on your computer.

**What is provided?** Lunch and coffee, soft drinks and snacks each day.

*\*Optional SCADAPack Training Kits at special course pricing: Limit one (1) for every two (2) students per organization. Training Kits will be shipped N/C to training facility, provided your registration is received approximately 3 weeks before the first day of the course. Training kits include a SCADAPack 2, SCADAPack32 or SCADAPack Controller, TelePACE Software, Hardware Manual (on CD-ROM), I/O Simulator board, AC/2 Transformer, & programming cable. Prices do not include applicable California sales taxes.*

Download the Registration form at: <http://www.sagedesignsinc.com/events/index.htm>

### Please send me the Registration Form

- ClearSCADA:**  December 4-7, 2007  February 26-29, 2008  
 4-Day Course  May 20-23, 2008  August 12-15, 2008
- SCADAPack TelePACE:**  November 7-9, 2007  February 6-8, 2008  
 3-Day Course  May 14-16, 2008  August 6-8, 2008



Name (please print):	Title:
Company:	Phone:
Address:	Fax:
	Email:
City/State/Zip:	

**\* \* \* Registration Deadline: 2 weeks before 1<sup>st</sup> day of course \* \* \***

All registrations are subject to cancellation fees. A confirmation notice will be sent to all registrants on or before the deadline date.

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SCADA

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Cathodic Protection

Flow Rate

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## What is Security Convergence and can it affect you?

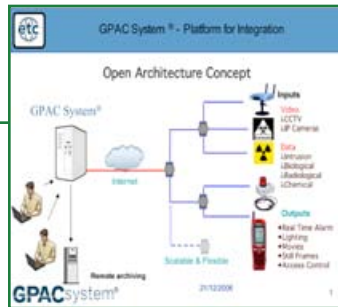
Within security and IT circles over the last couple of years, there has been talk of "Security Convergence". What this new phrase refers to is the evolving relationship which is growing between disparate security functions such as logical security and physical security.

Physical security departments tend to focus on the three G's (guards, guns and gates), while logical security groups are concerned with safeguarding information systems.

How are these two business areas converging? And what impact will this have on you?

The traditional barriers between these functions are being blurred as increasing numbers of businesses migrate from the old style PLC Automation Systems to the current web based PACs ( General Purpose Automation Control). It is now possible to affordably monitor and control cameras, sensors and device over a TCP/IP network. One example is the sale of old style CCTV cameras which are being eclipsed by Network or IP Cameras. Current IP cameras often come built in with a lot more "smarts" than their analog predecessors, including:

- Megapixel resolution
- Ring Buffer memory
- Digital zoom
- Infrared sensors



- Configurable exposure zones
  - Audio
- IP Cameras also have the option of PoE (Power over Ethernet) which makes cabling faster and more economical.

Rather than have several different systems managing Access Control, Smoke Alarms, Cameras and sensing devices, today's software platforms (PACs) are designed to integrate these and to instill common policy based security rules. This software has opened up the worlds of Integration and Automation Control to customers who can now use browser (Internet) technology to confidently install complex security and building automation systems that were previously the exclusive domain of PLC Programming Engineers.

Security convergence has created an excellent opportunity for systems suppliers to take their businesses to the next level by broadening their field of expertise and the ability to take on larger and more interesting projects.

Ask us about the Embedded Technologies Corporation's GPAC System.

## SentryTrack Data Portal

Enables the Sharing of Real Time and Historical Information across Departments and Agencies

As with so many organizations, valuable and critical information is captured, but not readily available through the entire entity. Personnel spend valuable time gathering information from multiple stand-alone systems to analyze the data and produce reports using Excel. Reports are then e-mailed to colleagues but run the risk of being dated or not having all the information needed to properly analyze operations. Historical data is also cumbersome to gather and takes system knowledge to retrieve the exact historical period needed.

SentryTrack Portal seamlessly connects to existing SCADA systems plus is able to collect data from remote sensors using the SCADAPack. SentryTrack provides powerful historical data archiving and reporting features. Installations take less than a few hours and data is available from all of your systems on a real time basis using a web browser. The ability to quickly deliver and centralize information in the portal reduces operating costs while improving organizational efficiency and reporting. Get one version of the truth.

### Return on Investment

The SentryTrack Portal solution is a low monthly cost software solution that is centrally hosted from a water and waste water industry centric application service provider. Benefits include:

- Aggregates data from multiple stand alone SCADA systems and remote locations
- Ensures the right information is at every desk and office in the organization

- Data archiving so all historical information is available anytime for further analysis
- Less dependence on Excel file sharing, which reduces risk that data is omitted or not shared with all necessary personnel.
- Ability for the user to download report data into Excel, Adobe, Word and HTML
- Quick deployment using an OPC server.
- No servers, SQL software, database applications or annual seat licenses to buy.
- Provides users the tools they need to do their jobs more efficiently and effectively which builds confidence in the data and organization.



### 30-Day Trial Offer

Experience the many benefits that our other clients enjoy by using our free 30 day trial offer (trial offer requires free installation of OPC software on your SCADA system to connect). Once your team sees the data pulled into an easy to use web portal and calculate the time saved in gathering and producing reports, you will be glad that you tried SentryTrack.

## Ensure High Data Integrity with DNP3

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the highest data integrity ensuring that no critical events are lost and storage of data is independent of the communications regime. If short duration events or 'spikes' occur, like a pump cycling within a minute or a flow surge, these can all be captured and time-stamped using a PLC/RTU clock without any customized code. DNP3 points specify a dead band (or de-bounce for digitals) before creating an event and the opposite beneficial effect is that data that is not changing is not wasting communications bandwidth.

Although DNP3 does have 40% higher overhead than Modbus, classified event-based communications is more efficient and you get unmatched data integrity. Compared to Modbus TCP, DNP3 overhead is comparable or less than Modbus TCP, due to the

increased overhead of encapsulating Modbus strings within TCP format. In addition, after loss of communication events, such as electrical storms, with classified polling, data can be uploaded to the host from RTU buffers as critical messages permit. There is no means to do this in Modbus TCP or the Modbus TCP messaging functionality.

Critical alarms can reach the SCADA host server almost immediately. Communication traffic is greatly reduced, radio latency does not have a significant detrimental effect on protocol performance and data integrity is maintained.

### Time Synchronization of RTU's and/or Remote PLC's

How will the system insure that all RTU's are synchronized? There are limited options using Modbus or

Modbus TCP. This is often critical using Modbus because the time stamping typically occurs at the host SCADA server, not the RTU! Sure, the SCADA host could write to a counter register within the RTU, but there is almost no means to verify clock synchronization, as you can write to the register, then hope that there is no latency in the communication system. We know this is not the case, as the specification acknowledges that there is latency or "key-up" time with the radio network. DNP3 supports time and date stamping at the RTU and allows for remote synchronization. Modbus does not. A Rube Goldberg solution for this may be implemented through a custom programmed compromise or proprietary functionality may exist for proprietary device-to-

device protocol, but it's not available with any flavor of Modbus protocol.

DNP3 has been made the de facto standard telemetry protocol for the UK water market (refer to [www.ukwits.org](http://www.ukwits.org)) and Australian markets. Unlike Modbus, which was developed as a standard means for communication between devices using hardwire connections, DNP3 was developed by GE Harris specifically for communication over radio and intermittent telemetry media. It's 20 years newer technology designed specifically for the task at hand, it's an open protocol and universally available. Refer to [www.dnp3.org](http://www.dnp3.org) to learn more about the DNP3 users forum.

— by Eric Schwantler, ClearSCADA Product Director, Control Microsystems

## Small District with Big Ideas

Located in the south of Los Angeles and next to the one of California busiest freeways, the City of Lomita was in need of a new SCADA control system for constant monitoring of its water system to meet their ample demand. The City has relied on the existing telemetry system to monitor its water system for many years. Because of its age, lack of support, or upgradeability, the system had become unsuited for the city water monitoring and control needs. Without telemetry, operators had to go to each site and measure the tank or reservoir levels and read the pressures and flow rates.

One of the City's requirements was that the new SCADA system be best of breed, flexible, expandable, as they did not want to have to replace the system after 10 years due to lack of support.

AES Automation recommended that their current and future SCADA system needs would best be suited by using Control Microsystems' ClearSCADA HMI software and SCADAPack 350 and 357 RTU's with integrated FreeWave 900 MHz Spread Spectrum Radios using DNP 3 communication. The DNP 3 protocol allows peer to peer communication with report by exception.

The City water distribution system has three remote sites (Tank, Reservoir, and Turnout) with less than ten I/O points, and one remote Pump Station with more than fifty I/O points. The City operators wanted to monitor and control the system from the City Yard and the Pump Stations, and the City water manager wanted to monitor and control the SCADA System remotely with laptops via the internet by

using ClearSCADA WebX Clients. For remote access network security the Untangle firewall/gateway using VPN tunneling software was implemented.

In the above system, RTU-1 acts as the data concentrator and polls data or accepts unsolicited data from all RTUs and makes data ready for the Host PC and RTU-3. Host polls the data of all RTUs from RTU-1 and RTU-3 polls the data of RTU-1, RTU-2, RTU-3, and RTU-4 from RTU-1 and makes data ready for the touch screen. DNP3 protocol is well-suited for the system, as it is a robust and non-proprietary communication protocol designed for electric utility, oil & gas, water & wastewater industries.

AES worked with the City to use as much of the existing SCADA infrastructure as possible, such as existing radio antennas and cables. All the existing water pressure gauges at the Main Pumping Station were changed out and replaced with digital pressure sensors wired to the SCADAPacks, and linked to the Touch Screen for trending and



Figure #2, Zone 2 Pressure trending & alarming.

local viewing by the operators. AES installed battery backups for each controller in case of power failure. The SCADAPack 357 monitors and alarms on power failure.

Battery voltage and power consumption are also remotely monitored and trended in the ClearSCADA HMI.

AES Automation specializes in systems integration and project management for the water/wastewater, gas, air quality, and the manufacturing industries.

AES is located at:  
3855 E. La Palma Ave., Ste. 104  
Anaheim, CA. 92807

Phone: 714-625-9021  
www.aesglobal.com

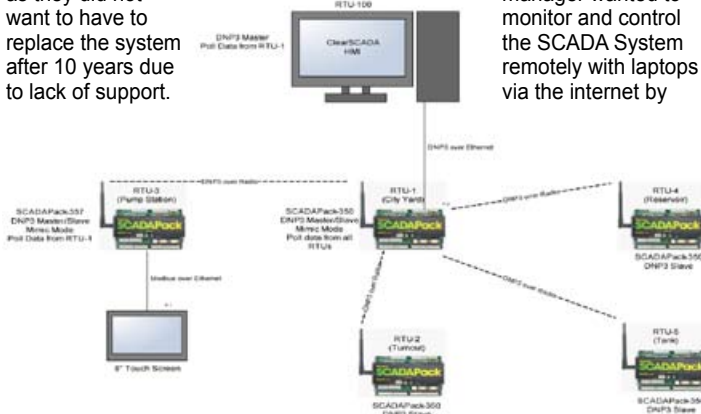


Figure No. 1, DNP3 Network Diagram of City of Lomita with two master RTU's



### Alarm Notification Software

Specter Instruments recently released Version 7.05 of their popular Win-911 Alarm Notification Software. This release contains a number of enhancements, including the ability to run as a Windows Service. The benefits of running WIN-911 as a Windows Service include the ability to:

- Start WIN-911 before you login and run continually across multiple user sessions
- Secure against unintentional or malicious shutdown,
- Restart in the event of failure
- Meet industry security standards.

New features for Version 7.05 include:

- Configure Watchdog Timers for loss of data connection alarms
- Enhanced Runtime Startup for Scan and Alarm

- E Mail Notification Type now supports Retries and Delay between emails
- Advanced Audit logs configuration changes such as Phone Number edits, deleting reports, or enabling/disabling global passwords.

**Webinar Training Series:** Specter Instruments will be hosting monthly Webinars for anyone who would like to learn more about the features of WIN-911 and how to implement them in an alarm notification strategy.

Topics include:

- How to use WIN-911 in **Redundant** Applications,
- Learn how to log critical alarm information and use the WIN-911 **Alarm Log Manager** to View Data
- Implement the powerful **Text to Speech** features of WIN-911

Visit their website  
www.specterinstruments.com

## CONTROL MICROSYSTEMS

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# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

### Calendar of Events

- September 13, 2007 CWEA Northern Regional Training Conference, Redding, CA
- September 13, 2007 CWEA Tri-Counties Section, September Workshop & Vendor Exhibit, San Luis Obispo, CA
- September 27-29, 2007 23rd Annual Tri-State Seminar on the River, Primm, NV
- October 3-4, 2007 USCID Fourth International Conference on Irrigation & Drainage, Sacramento, CA (Visit us at the Control Microsystems booth)
- October 13-17, 2007 WEFTEC '07 - 80th Annual Technical Exhibition & Conference, San Diego, CA (Visit the Control Microsystems and FreeWave booths)
- October 22-26, 2007 CA-NV-AWWA 2007 Fall Conference, Sacramento, CA
- October 24, 2007 Orange County Water Association, Oktober Vendors' Fest. Anaheim, CA
- October 30, 2007 ClearSCADA Hands-on Evaluation Seminar\*, Milpitas, CA
- November 1, 2007 ClearSCADA Hands-on Evaluation Seminar\*, Buena Park, CA
- November 7-9, 2007 SCADAPack - TelePACE Training Course\*, Mill Valley, CA
- November 28, 2007 DNP3 Seminar, Mill Valley, CA
- December 4 - 7, 2007 ClearSCADA Training Course\*, Mill Valley, CA
- Feb 6 - 8, 2008 SCADAPack & TelePACE Training Course\*, Buena Park, CA
- Feb 26 - 29, 2008 ClearSCADA Training Course\*, Buena Park, CA
- May 14 - 16, 2008 SCADAPack & TelePACE Training Course\*, Mill Valley, CA
- May 20 - 23, 2008 ClearSCADA Training Course\*, Mill Valley, CA
- Aug 6 - 8, 2008 SCADAPack & TelePACE Training Course\*, Mill Valley, CA
- August 12 - 15, 2008 ClearSCADA Training Class\*, Mill Valley, CA

\* Download the [registration form](#) from our website or call for more information.

## SCADA & Security

**CONTROL MICROSYSTEMS** **SCADAPack** **ClearSCADA**  
Controllers HMI Software

**Win-911** Alarm Notification Software

**FREE WAVE** Spread Spectrum Serial & Ethernet Radio modems

**ProSoft** RadioLinX Industrial Hotspot WiFi Radio Modems

**TELEDESIGN** UHF, VHF, MAS SCADA Radios

**SLS** Web-based SCADA Reporting  
Sentry Track Systems

**PureTech** Security Camera Management & Video Analytics

**VICON** Security Cameras, Recorders & Networked Video Security Systems

**Sage Designs, Inc.**

SCADA & Security

1-888-ASK-SAGE • 1-888-FAX-SAGE  
www.SageDesignsInc.com

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**Sage Designs, Inc.**

SCADA & Industrial Automation Products

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PRESORTED  
STANDARD MAIL  
US POSTAGE PAID  
POINT TO POINT

♻️ **SAVE A TREE**  
Address Service Requested