

# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

Volume 29, Issue 1 • Spring/Summer 2019

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### Major Project Uses DNP3 Secure Authentication Protocol

One of the largest regulated American water utilities in the country has chosen to upgrade their SCADA system from RTUs to SCADA Master Stations with the latest in modern SCADA products from Schneider Electric Telemetry and Remote SCADA Systems. When fully deployed there will be more than 800 remote stations and 40 ClearSCADA servers supplying their operators, technicians and managers with up to the minute information on the status of their state-wide systems which supply drinking water to more than 2,000,000 customers. It is extremely important to this customer that they be able to fully manage their remotes from a central location as there are only a handful of technicians who service and support the technical aspects of this system. Among other challenges, the last mile of communications for this system runs over a narrow-band radio system at 9600 baud making bandwidth an extremely valuable commodity. In order to provide a secure solution that will function well in the narrow bandwidth available, protect their systems and thus their customers from malicious attacks, the customer insisted on the deployment of a system that supports the latest in secure SCADA protocols; DNP3 v4 with Secure Authentication.

Fortunately, the combination of the SCADAPack x70 series controllers and the ClearSCADA SCADA Master Station software provides the tools to do just what they needed. In addition to the support for the DNP3 with Secure Authentication, ClearSCADA and the Remote Connect x70 configuration software provide them with tools to manage many aspects of their remote sites from a single location. While the ability to download firmware updates, application software changes or controller configuration changes, are present, not all of these features may be used in this application. Along with these capabilities, also comes the ability to remotely run diagnostics and track application software changes to the controller which will help them to manage their system.

In order to upgrade the existing system quickly and reduce downtime as much as possible they are taking advantage of the similarity of wiring between the SCADAPack 574 and their existing SCADAPack 32 and 16-bit SCADAPack controllers. With the available terminal adapter kit, replacing and older SCADAPack with the 574 takes only a few minutes and the installation team can move on to commissioning right away.



The SCADAPack x70 series of remote controllers are classified as rPACs which is, as you may have seen in previous editions of this newsletter, a new classification for a remote controller similar to the PAC classification given to the higher power "PLCs" now being offered by the big names in plant control products. The ARC Advisory Group defines the PAC as PLC-based programmable automation controllers which provide multi-domain functionality including logic control, motion control, drive control, and process control, on a single platform. The systems are used in industrial control systems (ICS) for machinery in a wide range of industries, including those involved in critical infrastructure. For those already familiar with other acronyms in this field: An RTU is to an rPAC as a PLC is to a PAC. An rPAC has similar processing power

*DNP3, Continued on Page 7*

### Sage Designs Teaches First RemoteConnect Class

Sage Designs proudly announces the completion of the first training course offered for RemoteConnect function-block programming and SCADAPack x70! In our ongoing effort to bring our customers the latest in SCADA and security we were first to book arrangements with the manufacturer to become accredited trainers of this new programming tool, and the first to offer this course within the western United States region.

The 3-day course was attended by representatives of major water companies throughout California and Nevada and offered Sage Designs' own Tony Sannella as instructor with support

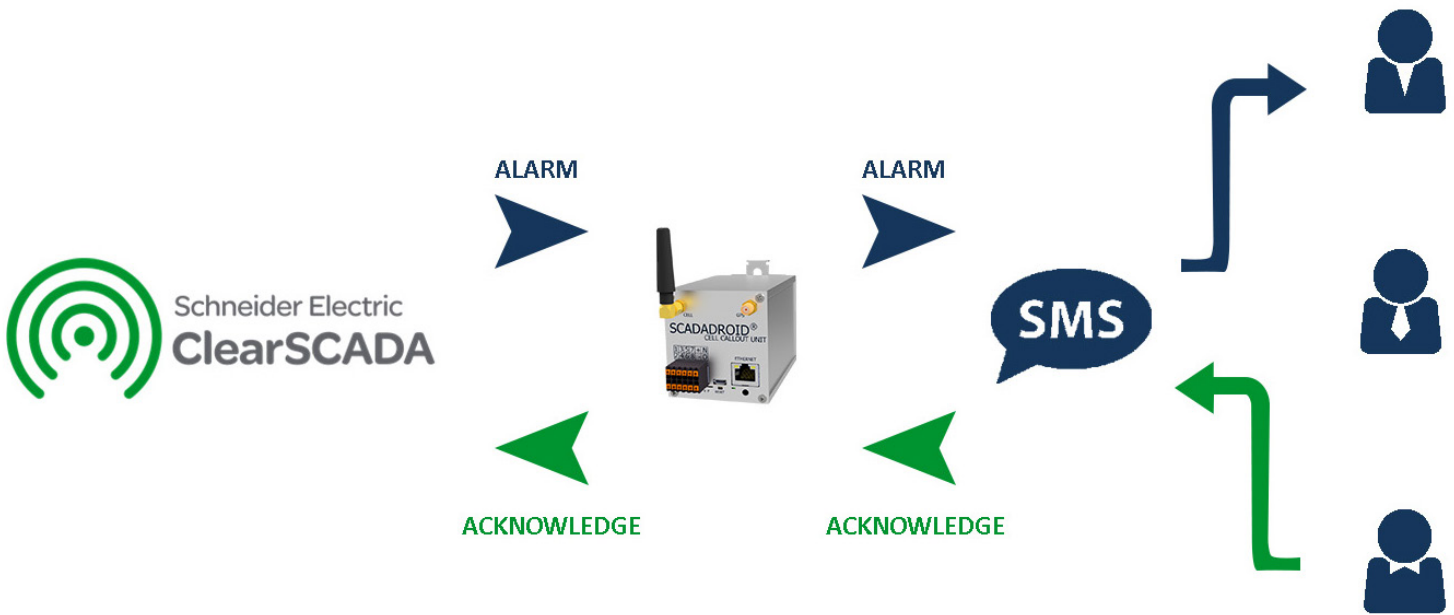
from Schneider Electric. In another Sage Designs exclusive, we were also able to accredit the course for water operator contact hours with the State of California. Sage Designs will be offering more sessions of this course in the future as it gets added to our regular course schedule of Telepace Studio and ClearSCADA instruction.

If you would like to receive notifications of new and upcoming training courses let your local Sage Designs representative know, or fill out the information request form on our website, [www.SageDesignsInc.com](http://www.SageDesignsInc.com)!



#### Inside this issue:

- DNP3 Secure Authentication Protocol
- Sage Design's First RemoteConnect Class
- ClearSCADA & SCADADroid SMS Alarms
- Sage Advice: ClearSCADA Server
- Securing Your SCADA System
- Training & Events



With network upgrades happening all over the world as we begin to prepare for the inevitable switchover to a 5G infrastructure, many cellular providers are starting phase-outs of their existing 3G technology. With Verizon already having shuttered service at the end of 2018, this has left many ClearSCADA users in need of cellular callout options scrambling to find something to fill the upgrade gap. A variety of LTE capable solutions exist, but many require a duplication of databases and may require expensive software or costly time spent on training operators to implement. The issue can be compounded when solutions may not work with your existing IT or cellular provider infrastructure, adding layers of complexity.

We have heard your feedback, and today are happy to announce that Reonix Automation has introduced capability into its new SCADADroid® R2+ line of 4G LTE capable remote monitoring devices to provide a reliable GSM Modem solution for ClearSCADA. Through a simple Ethernet connection, utilizing the TCP protocol, the SCADADroid R2+ can be configured to act as an SMS Pager over ClearSCADA's built-in SMS Service, giving you the capability to...

- Utilize your existing ClearSCADA database of alarms, users and setpoints to get notifications out to a multitude of operators' devices without the need to manage a separate system
- Acknowledge alarms with user-specific codes, only if you choose to enable two-way communication

- Have peace of mind through SCADADroid®'s built-in communication overview, providing you with a secondary point to see all communication history for each device

The SCADADroid® R2+ can do this all while retaining its many robust monitoring features. Meaning you can still utilize Modbus TCP/IP communications to tie directly to a PLC or simply use the device's on-board 8 digital inputs for any supplementary site-specific alarms. This, combined with SCADADroid®'s VPN Gateway capability give you the ability to change any SCADADroid® settings, or even provide secure access to other devices connected to it, remotely from the comfort of your office.

The entire setup of the integration can take as little as 15 minutes. It consists of:

### SCADADroid R2+ Setup

1. Connect the device to a local computer, log in through any major browser to the default IP Address (192.168.1.15)
2. On the Overview page, ensure cellular connectivity exists and the signal is sufficient
3. Change the device's IP to one which aligns or doesn't conflict with your existing network

### ClearSCADA Setup (in your existing database)

1. Create a new SMS Service: **Right Click > Create New > Pager > SMS Service**
2. Enable the Service: **Click once on**

the new SMS Service and under the SMS Service Tab > Enable the 'In Service' checkbox > Enable the 'Process Incoming SMS Messages' checkbox > Click save icon in top left corner

3. Create a new SMS Pager Channel: **Right Click > Create New > Pager > SMS Pager Channel**
4. Link SMS Pager Channel to the created SMS Service under the: **Click once on the new SMS Service and under the Channel Tab > Enable the 'In Service' checkbox > Click the '...' button next to Pager Service, locate the SMS Service which you created in Step 1. and highlight it > Click OK > From 'Line Speed' select 115200 Bits/second > Change Modem Command to read "AT" > Click the save icon in the top left corner**
5. Change the connection type: **Under the Connection Tab > Change Connection Type to TCP/IP > Under Host Address input the SCADADroid R2+ IP Address which you established in Step 3 of the SCADADroid Setup > Change the Port to 2002 > click the save icon in the top left corner of the screen.**
6. Enable the SMS Service as a mode of notification for your contacts: **Locate**

a user > Click once on the user > Under the Contact Information Tab ensure that the user's phone number is present under 'Pager ID' > Click the '...' button next to Pager Service, locate the SMS Service which you created in Step 1. and highlight it > Click OK > Enable the 'SMS Commands' checkbox

A helpful way to view the implementation is with the help of the newly released ClearSCADA specific video on Reonix



Automation's YouTube channel: <https://www.youtube.com/watch?v=zKlpaR5iPml&feature=youtu.be&t=80>

All of this is achieved without the need for any specialized software or hardware outside of ClearSCADA and SCADADroid®. Meaning your process remains simple, functioning the way you're accustomed to, while giving you a much more reliable means of communication, robust for years to come.



# SCADAwise™ Training Classes

## ClearSCADA

## SCADAPack

### ClearSCADA Level 1 Training Course

May 20-23, 2019 — Buena Park, CA  
September 16-19, 2019 — 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 \$2,200

Sage Designs' ClearSCADA Level 1 Course has been certified by (a) the California Department of Public Health as courses qualifying for contact hour credit for Water Operator Certification for Drinking Water Treatment or Distribution in the State of California and (b) the State of Nevada Department of Environmental Protection, Bureau of Drinking Water for contact hours towards the Nevada Drinking Water Operator Certification Program.

**(28 Contact Hours)**

### Telepace Studio Training Course

May 14-15, 2019 — Buena Park, CA  
September 10-11, 2019 — Mill Valley, CA

- Day 1 (8AM - 4PM) SCADAPack controller operation, Series 5000 I/O, Telepace Studio introduction
- Day 2 (8AM - 4PM) Telepace Studio advanced programming techniques and advanced functions
- Day 3 (8AM - 2PM) Controller communications, Modbus Master/Slave protocol, Diagnostics, Modems

**Cost:** SCADAPack Telepace Studio Course \$1,650\*

\* You must have a licensed copy of Telepace Studio installed on your computer for this course. If you do not have a licensed copy, you may purchase one with the class at a special course price. Course price for Telepace Studio: \$510 + applicable CA sales taxes

Sage Designs' Telepace Studio Course has been certified by (a) the California Department of Public Health as courses qualifying for contact hour credit for Water Operator Certification for Drinking Water Treatment or Distribution in the State of California and (b) the State of Nevada Department of Environmental Protection, Bureau of Drinking Water for contact hours towards the Nevada Drinking Water Operator Certification Program.

**(14 Contact Hours)**

### ClearSCADA Level 2 Training Course

2019 Dates TBD

- Day 1 (8AM - 4PM) Installation, Understanding the Architecture of ClearSCADA, Application Design Considerations, Server Automation Interface, ClearSCADA Logic Engine, Using ODBC and SQL.
- Day 2 (8AM - 4PM) Advanced Mimic Design and Techniques, Data Grids and Data Tables.
- Day 3 (8AM - 1PM) Accessing Historical Data, Ad Hoc trends, Archiving

**Prerequisite:** ClearSCADA Level 1 Training Course

**Cost:** ClearSCADA Level 2 Training Course \$1,650

**(20 Contact Hours)**

**Instructors:** ClearSCADA Level 1 & Telepace classes will be taught by Tony Sannella, Sage Designs, a Factory-Certified Instructor. SCADA Level 2 classes will be taught by a SEUSA-certified training instructor. The ClearSCADA Test Drives will be conducted by Sage Designs or a factory representative.

**Location:** See individual course registration form. Those requiring overnight accommodations should call the hotel directly for reservations.

**What should I bring?** Laptop computer with minimum requirements as shown on the specific course registration forms, plus necessary permissions to install software on your computer.

\*You must have a licensed copy of Telepace Studio to take the Telepace course. We offer a course price for a license or you may purchase through your local Schneider Electric TRSS representative.

**What is provided?** Course manual, daily continental breakfast, lunch & beverages.



**Schedule Your Own**

**ClearSCADA Test Drive**

### Free Hands-On Test Drive

Call to Schedule a Test Drive  
Call 1-888-ASK-SAGE  
email: [info@scadawise.com](mailto:info@scadawise.com)

**SAGE DESIGNS, INC.**  
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Download the Registration form at: <http://www.SCADAwise.com>

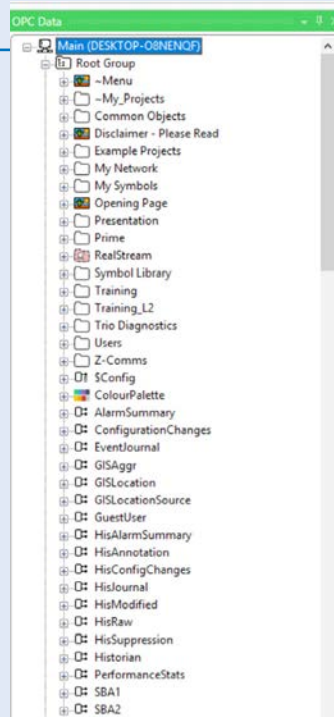
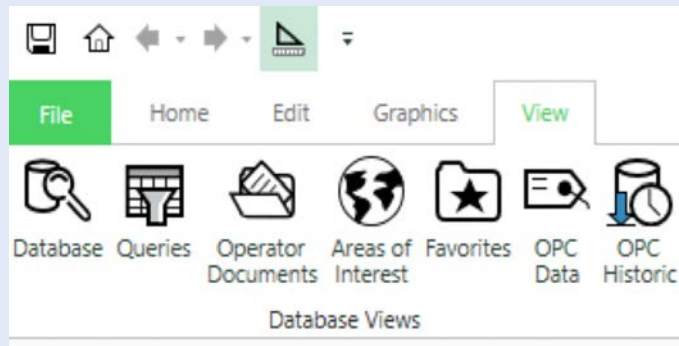
**\* \* \* Registration Deadline: 4 weeks before 1<sup>st</sup> day of course \* \* \***

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

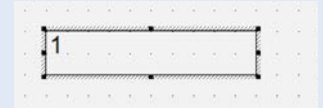
### How to determine the state of a ClearSCADA Server

I was approached by a systems integrator this week wanting to know how they could determine the current role of a ClearSCADA server. Is the server on Machine A the primary, secondary or other (Tertiary, Permanent Standby or DMZ). This information is needed so that other redundant applications such as alarm dialing software can know whether or not to run as primary or secondary apps. Fortunately, there are a couple of ways to do this and simple tools to use in ClearSCADA to direct other redundant products to load and execute.

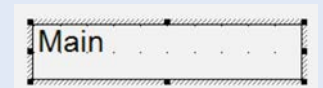
In the View tab of the ClearSCADA Ribbon, select the OPC Data view which provides a list of all the objects in your application and their OPC meta tags, plus the system OPC meta tags.



Scroll down the list until you see the ServerIsMain tag and drag and drop it to a Mimic to see that the state is 1 on the Main server and 0 on all other servers.



The ServerStateDesc will return the description of the server:



You can easily use the ServerIsMain value of 0 or 1 in a logic argument to start your other applications, generate an alarm to notify operators or others or automate other aspects of your SCADA system.

# Pill SCADAwise BOX

The Pillbox™ is a self-contained housing for field installation of electronics packages that need protection from the elements as well as unwelcomed attention. Inside, there is up to 3 sq. ft. of panel space with 3' of mounting DIN rail for mounting equipment and 3' of wiring Panduit. The equipment panel slides in behind the retainer system which allows for easy removal of all mounted components. The bottom of the retainer system includes a battery tray allowing the removal and service of the batteries without tools for disassembly.

- ✓ Easy to Install
- ✓ Tamper-resistant
- ✓ Low Maintenance
- ✓ Engineered Solution

For more information contact:

**SAGE DESIGNS, INC.**  
SCADA & Security Products

150 Shoreline Hwy., #8A  
Mill Valley CA 94941-3634  
**1.888.ASK.SAGE**

[www.sagedesignsinc.com](http://www.sagedesignsinc.com)



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SCADA Components:

- SCADA Expert ClearSCADA management software
- SCADAPack Smart RTUs & rPACs
- Accutech wireless instrumentation
- Trio data radios



For more information, live equipment demonstrations, a listing of contact-hour certified classes near you, or to schedule a consultation on solving your SCADA challenges, contact your local Schneider Electric | TRSS representative:



(888) 275-7243  
www.sagedesignsinc.com  
www.scadawise.com



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# Securing Your SCADA System Against Malicious Attack

As a company founded on the cost savings and human labor saving benefits of industrial automation, Sage Designs has operated for 25+ years in the SCADA infrastructure space. We have a vested interest in protecting that space from attacks in the long-term and, if you're reading this newsletter, odds are that you do too.

With internet connections built into every computer on every network, everyone who operates a system of technology or automation carries the risk of a hacker or virus-related shutdown. While other industries are content to wait for attacks before investing in their cyber-defense, Water doesn't have this luxury. As the saying goes, "If you lose power, light a candle. If you lose water, move."



Water infrastructure professionals face attacks from "basement hackers", nation-states, and everything between. And despite increasing awareness of cyber breaches, these breaches are becoming more prevalent, not less. Estimates are that 43% of businesses in 2017 experienced a cyberattack. In 2016 a water utility (known only pseudonymously as "Kemuri Water Company") with millions of customers was compromised by hackers who twice manipulated chemical flow in their treatment plant. That same year New York state charged seven hackers with penetrating the controls system of a suburban dam, a security breach that gave those unauthorized individuals the ability to open a sluice gate which could flood hundreds of homes. Internationally, the (allegedly) state-sponsored Stuxnet attack targeted PLCs to destroy over 1000 physical machines.

Governments across the aisle have sounded the alarm to the danger that cyberattacks pose to critical infrastructure, including water utilities. In February 2013 the Obama White House issued the [Presidential Policy Directive for Critical Infrastructure Security and Resilience](#) outlining an increase in attacks and calling for operators of infrastructure utilities to understand and take measures to proactively neutralize cyber-threats which could disrupt or prevent our access to water, energy, healthcare, defense, or transportation. In May 2017 the Trump White House issued the [Executive Order on Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure](#) which directs these industries to create and strengthen cyber-defenses with the help of the Department of Homeland Security. In June 2018 the Environmental Protection Agency released the [Water Sector Cybersecurity Brief](#) citing the growing threat to water and

wastewater systems from cyberattack and suggested best practices. The threat is real, growing, and must be addressed.

It is for these reasons that Schneider Electric's new line of SCADAPack x70-series rPACs offers security options designed for the unique needs of the SCADA environment. While other options can overload an existing network's radio data ability or require arduous slogging through IT protocols, the x70 series balances effective responses to the most likely and damaging attacks with the limited communication and power availability of distributed SCADA systems.

## DNP3 Secure Authentication

DNP3 Secure Authentication is a bi-directional protocol that adds data integrity protection and user and device authentication, resulting in protection between DNP3 Masters, DNP3 Slave devices and configuration software using the DNP3 protocol.

DNP3 transactions are secured from end to end through a system regardless of the communications protocol specified (TCP/IP, UDP/IP, serial) and independent of the presence of communications gateways, routers, etc. DNP3 can also be secured in hybrid networks, for example, through TCP/IP and then to serial communications.

DNP3 Secure Authentication uses a cryptographic key technically known as the Update Key for securing messages. This static key is the secret key that is pre-shared between a DNP3 Master device and the DNP3 Slave device.

From the Update Key, a dynamic Session Key is created that protects critical operational data. A summary of this data flow is shown in the illustration below.

## IP Whitelist

The IP Whitelist operation is a means for restricting access from and to other

devices, monitors, or other addresses.

By default, the IP Whitelist is disabled meaning that all network traffic can flow through the SCADAPack.

When the IP Whitelist operation is enabled, no inbound or outbound network traffic is permitted except for those addresses and services that are identified on the IP Whitelist table. The maximum number of user-created entries is 100.

## Device Hardening

SCADAPack x70 rPACs also allow for device hardening, the process of configuring your device against communication-based threats. Device hardening measures include disabling unused network ports, password management, access control, and the disabling of all unnecessary protocols and services.

These security features are just the tip of what you can accomplish with SCADAPack x70-series controllers and ClearSCADA Master Station Software. For more information on available security features and to discuss your SCADA



security outlook, please contact your local Sage Designs representative.

**For additional information on the subjects discussed in this article, we suggest:**

Industrial Control Systems Cyber Emergency Response Team (ICS-CERT)  
<https://ics-cert.us-cert.gov>

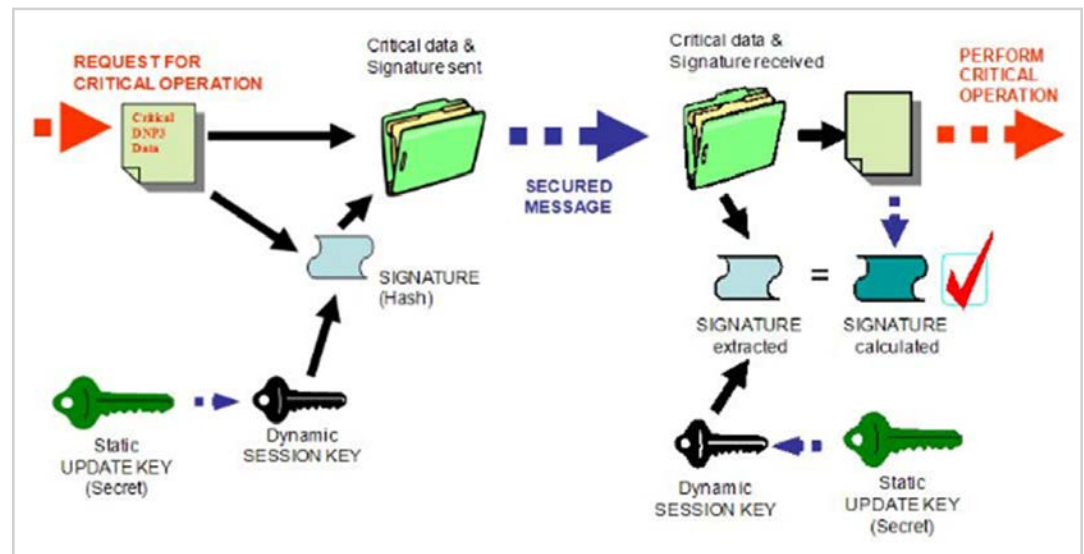
ICS-CERT Recommended Practices  
<https://ics-cert.us-cert.gov/Recommended-Practices>

Center for Internet Security (CIS) Top 20 Critical Security Controls  
<https://www.cisecurity.org/cybersecurity-best-practices>

FBI Cyber Crime  
<https://www.fbi.gov/investigate/cyber>

Guide to Industrial Control Systems (ICS) Security  
<https://www.nist.gov/publications/guide-industrial-control-systems-ics-security>

WaterSAC Water Security Network  
<https://www.watersac.org>



to a PAC and supports the use of higher-level languages in a product that has been designed for harsher environments and the lower power consumption requirements found in remote locations.

The SCADAPack 570/575 are the first two models of the newest generation of SCADAPack Smart rPACs and bring together many of the most important features of the standard SCADAPack and the SCADAPack E-series controllers into a single Smart RTU solution. In conjunction with Remote Connect software, the SCADAPack family as entered the market as a ruggedized, extremely powerful and secure product at a reasonable price.

The SCADAPack 574 provides an alternate I/O combination when compared to the SCADAPack 575 while being the same as the SCADAPack 575 in other aspects. Available terminal adaptors may be used with the 574 controllers to allow for a quick drop-in solution for replacement of some models of SCADAPacks 32s and older 16-bit SCADAPack standard RTUs, as mentioned earlier.

The SCADAPack 575 offers 1ms Sequence of Event (SOE) monitoring capability and is well suited to telemetry applications that require high-speed timestamping and data capture.

### All models of the x70 controllers offer:

- Support for open standard telemetry protocols such as DNP3 with Secure Authentication
- Support for open standard industrial protocols such as Modbus RTU and Modbus/TCP
- An open standard IEC 61131-3 programming environment
- Master operation capabilities for DNP3 or Modbus devices

- Support for up to 29 active Supervisory Control and Data Acquisition (SCADA) masters, up to 100 remote/local slave devices, and up to 100 remote DNP3 devices in peer-to-peer mode
- A remote management suite to change configurations, modify programs and update firmware remotely using open standard DNP3
- Up to 467 physical digital/analog inputs and outputs
- 3 Ethernet and 4 serial ports, 1 USB device port for local configuration
- 1 USB host port for external storage on USB host devices up to 32 GB
- A tool-free DIN rail mounting system
- 15 g acceleration (g-force)
- Support for IP2x terminal blocks
- Support for operation from -40...70 °C (-40...158 °F)
- A compact form factor
- And can be configured to play one or more of the following roles in your Supervisory Control and Data Acquisition (SCADA) environment:
  - DNP3 Slave
  - DNP3 Peer
  - DNP3 Router
  - DNP3 Master
  - Modbus RTU Master
  - Modbus RTU Slave
  - Modbus/TCP Client
  - Modbus/TCP Server

The role your SCADAPack plays in your SCADA environment determines how you need to set up communications to and from the SCADAPack and how you need to configure the SCADAPack.

Models available within the SCADAPack x70 series include four serial ports and three Ethernet ports on separate networks that are available for communications with the SCADA master system, with other SCADAPacks and with devices such as Programmable Logic Controllers (PLCs), instruments, and smart devices, and with the

local SCADAPack Remote Connect configuration software. They also include a USB 2.0 device port for local configuration and a USB 2.0 host port that supports plug-in media.

A socket modem port that supports GPRS, 3G or LTE communications with remote devices will be available at a later date.

### The key benefits of the SCADAPack x70 Smart RTUs are:

- **Simplicity:** Remote Connect provides a Unity compatible IEC61131-3 logic editor. Function Block Diagram (FBD) programming provides a logic environment that is relatively easy to understand without requiring special programming knowledge, thus reducing dependence on highly skilled resources. Complex Derived Function Blocks (DFBs) may be used to present users with what appears as a 'simple' function block, that abstracts the complexities of equipment and associated functionality such as pumps, drives, filters, separators, etc.
- **Leverage Skills, Training, and Logic Code Across Systems:** The x70 Logic Editor is Unity Pro compatible, thus enabling integrators and end users to leverage training and skills across both Schneider PLCs, and SCADAPack RTUs. Unity Pro compatibility extends further than that, by allowing complex DFBs to be shared between PLC and RTU logic. Remote Connect allows for importation of complex DFBs developed in Unity Pro for re-use within the SCADAPack RTU and vice versa.
- **Cybersecurity:** The SCADAPack x70 RTUs have individually addressable Ethernet Ports, IP White-listing, and are tested to meet Achilles level2 communications robustness. The DNP3 level 4 protocol includes optional Secure Authentication (SAv2) which facilitates authentication of critical controls and commands when

the SCADAPack 57x RTU is used in conjunction with a suitable SCADA Host or other devices supporting DNP3 SAv2.

- **Longevity:** SCADAPack 57x RTUs are the leading edge of the next-generation of SCADAPacks. They are at the early stages of their product lifecycle, thus providing for SCADA and automation solutions for many years into the future.

The project, which began deployment around the middle of last year, is nearing the half-way point today. rPACs and servers are going into service in new locations and being commissioned in batches every month at an impressive pace. The project is progressing even better than expected and is on track for completion ahead of schedule.

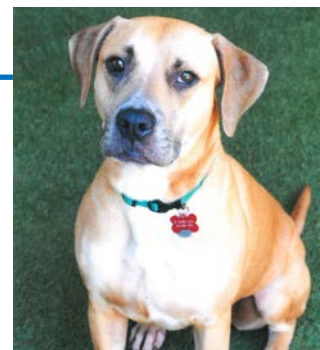
Even while incomplete this state-of-the-art SCADA system is already proving its value. During the writing of this article the system experienced a problem which caused complete radio outage within one system for more than a day. Thanks to DNP3 peer-to-peer capability, the SCADA Master was not needed to keep the system in control. According to their SCADA Manager: "Unlike how things could have run prior to installation of this system we didn't overflow or empty any tanks, we didn't over or under pressure any lines, we didn't lose a single piece of data about how the system performed while communications were down and not one of our customers was without water for even a minute. The system performed flawlessly".

For more information on this project, please contact Sage Designs.

To download your free copy of the full version of Remote Connect configuration and SCADAPack Unity logic editor, please contact your Sage Designs representative.

## Sage Designs Welcomes A New Face!

Sage Designs is proud to announce the acquisition of our new Director of Marketing, Sophie! Sophie's last position was with the Humane Society of Marin. Her previous experience includes a degree in advanced barking studies and experience as both Branch Manager and Stick Manager for Fortune 500 companies (we did not check these qualifications, but she demonstrates considerable aptitude). She enjoys finding a project, handing it off to someone else, then taking ownership of it again. Sophie looks forward to greeting you at the Sage Designs office, unless you are in league with the villainous mailman who she plans to prove is stealing the outgoing mail.



# SAGE DESIGNS, INC.

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Return Service Requested

🌲 SAVE A TREE

# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

### Calendar of Events

April 9-12, 2019	CWEA Annual Conference, Palm Springs CA
May 7-10, 2019	ACWA Spring Conference, Monterey CA
May 14-15, 2019	TelePACE Training Class, Buena Park CA 📺
May 20-23, 2019	ClearSCADA Level 1 Training Class, Buena Park CA 🎧
June 10-12, 2019	AWWA-ACE 19 Expo, Denver CO
August 6-8, 2019	Tri-State Seminar on the River, Las Vegas NV
September 10-11, 2019	TelePACE Training Class, Mill Valley CA 📺
September 16-19, 2019	ClearSCADA Level 1 Training Class, Mill Valley CA 🎧
October 21-24, 2019	CA-NV AWWA Conference, San Diego CA
November 5-8, 2019	USCID Conference, Reno NV

\*Download the registration form from our website or call for more information.

### SAGE DESIGNS, INC. SCADA & Security Products

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MS4

### SCADA

ClearSCADA Enterprise Software  
SCADAPack RTU/PLC Controllers  
FlowStation Pump Controllers  
Pillbox Ruggedized SCADA Enclosures  
WIN-911 Alarm Notification Software  
ScadaDroid Alarm Dialer  
Dream Report Industrial Report Generation

### WIRELESS

Accutech Wireless Instrumentation  
Trio Spread Spectrum & Licensed Radios  
Proxim Wireless Broadband Networks  
Teledesign Systems VHF & UHF Licensed  
FreeWave Spread Spectrum Serial & Ethernet

### SECURITY

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