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"Island of Information" Concept

When I think of the BAS Remote I/O, I think of it as more than BACnet®/IP I/O. I think of it as an interface that allows a wealth of information to be obtained from a single area.

The Modbus protocol has been a workhorse of the BAS world. It has been around a long time and there are many devices that use it as a basis to provide information to the user via the control system. Using this as a backdrop, how does the BAS Remote I/O complement the Modbus protocol in creating this "island of information" concept?

Let's review the basic premise for utilizing the BAS Remote I/O. The BAS Remote is designed for connectivity to the Ethernet wiring structure. It is assumed that the Ethernet wiring structure already exists in the facility, and therefore, the addition of the BAS Remote I/O is as simple as locating a switch port and connecting to it. The native protocol for the BAS Remote I/O is immediately thought of as BACnet/IP, which is true, but it is equally comfortable in communicating via Modbus TCP. It is the Modbus TCP to Modbus RTU (or ASCII) gateway in the BAS Remote I/O that is an extremely effective way of providing a wide range of flexibility in connecting to these Modbus devices that are typically full of data.

Think of it this way. With a single connection point to the Ethernet infrastructure, you have eliminated the cost of running another cable for the Modbus communication. Since Modbus is a daisy-chain physical wiring format, sometimes branching to where you need to go may not be easy. Working through the BAS Remote, you have access to any Modbus information that is available in the area. For example, let's say you have a boiler application. You can use the BAS Remote I/O to supply local I/O information through its I/O, plus provide a wealth of boiler information via the Modbus. This is the "island of information" concept. This is a single connection point that provides meaningful information about equipment in a single area (an island).

Consider another "island of information" application. How about a rooftop unit application where it is desirable to not only obtain local information via I/O points, but to be able to monitor the power being used. Many energy measurement and metering devices use Modbus as their protocol to supply data to external devices. Information available typically includes voltage, current, KWH, and also power factor, KVA, KVAR and many more depending on the manufacturer. Whether this information is stored as integer, double wide integer, or floating point, the BAS Remote I/O can retrieve and send it to the BAS controller.

So keep in mind this "island of information" concept. When you look at your opportunities, does it make sense to use the existing Ethernet infrastructure, utilize the BAS Remote I/O, and provide additional information via the BAS Remote I/O Modbus port?

If you have any questions, comments or suggestions, please contact me, Joe Stasiek, at 630-963-7070 x 116 or **jstasiek@ccontrols.com**.

Roundtable's Fifth Anniversary Marks Commitment to Quality

As a member of the Quality Roundtable, Contemporary Controls Operations Manager George Karones believes the group echoes this message as it marks its fifth anniversary. "Quality in every product, process, and business practice has to be taken seriously. It has to be addressed upfront and not as an afterthought."

The Quality Roundtable is a group of local companies in the Chicagoland area that share their knowledge and experience about the quality profession. "It is based on the saying that 'two heads are better than one'," Roundtable founder Gary Piper explains. He says each meeting consists of a discussion on a mutually agreed topic, and each member shares their thoughts and their company's position on the topic being discussed. "It is through this sharing of information that learning takes place," Piper says. "Unlike ASQ gatherings, the Roundtable is much more intimate and tailored to topics of interest to all present."

Karones believes it's important to leverage that knowledge to help solve your own company's problems. "With the exchange of ideas, it has helped me to implement a quality system in my company that is workable for us within our available resources," he explains.

As Karones views it, the Quality Roundtable is moving in the right direction and will continue to do so as the years go by. "Each member has a long-term vision and investment in making continued improvements in quality issues," he says.

(back row left to right:) George Karones, Contemporary Controls; Walter Neuhengen, S & C Electric; Jim Jasinski, L3-Electrodynamics; Tom Goodman, A.J. Antunes;; Jim Furst, Shure Inc.

(front row left to right:) Kevin Marrs, Shure Inc.; Bob Amberg, PCTEL; Gary Piper, Shure Inc.

(not pictured:) Catherine Aimanzo, Powervar, Inc. and Lisa Royal, Shure Inc.

TECH UPDATE

When You Can't Reach an IP Address

The annoying alert below is often encountered, but it is particularly frustrating in an Industrial Ethernet network that contains few devices.

The suggestion from the IE alert above is perhaps the most significant to Industrial Ethernet users. Mistyping is among the most common cause of errors. But here is where you may encounter a most surprising and very simple mistake—one that often goes quite unrecognized until time has been wasted investigating other, more-expected issues.

This common mistake alluded to the above occurs when you are careless with your list of network IP addresses. Have you ever failed to realize that you are typing in **the very same address of the machine at which you are typing**? Yes, making this simple mistake will yield this alert shown above. Before you start checking network connections and other issues, confirm that you are not targeting your own IP address!

By Bill Greer, Senior Product Specialist

For more of Bill's insights into Industrial Ethernet, please visit:

www.ccontrols.com/blog.htm.

Doing the Right Thing

Contemporary Controls exhibited at the Green Sustainable Building Controls conference during September in Dallas, Texas. The conference was sponsored by BACnet® International and Engineered Systems magazine. Not only was it an opportunity for the BACnet community to attend a BACnet International general membership meeting, but it was interesting to hear all the case studies on how building owners are making their buildings "greener." We heard some very innovative "green" ideas and many of the projects were initiated in the public sector. There were presentations from the City of Dallas, the Dallas-Ft. Worth Airport, and a school district in Canada. However, not all the ideas involve building controls. The school district mentioned that Instead of using rugs in a library, decorative concrete was used instead. Rugs have a ten-year life and are therefore, not sustainable by definition.

There might not be consensus if the earth is experiencing global warming or global cooling, but it was quite clear that energy costs are going to continue to rise. There were several sessions on demand-response strategies which rely upon automated controls in order to respond to 15-minute intervals of changing demand conditions. There was much discussion about buildings receiving Leadership in Energy and Environmental Design (LEED) points. In order to prove that energy savings are actually occurring, more measurement points are needed which will add to the load on the building management system (BMS). Finally, we were impressed with the dedication of those people who are involved in the green projects. They do it not just for economic reasons. They know it is the right thing to do.

College Interns Play a Role in Contemporary Controls

In today's competitive job market, more college students see internships as a way to improve their education in their field of study. And companies such as Contemporary Controls are attracting students with the promise of hands-on experience and getting an edge on all the talent that exists in their respective schools.

At Contemporary Controls Jason Zhang and Nithya Nair view their internships as a natural fit. It allows them to apply all that they've learned in their classes into their work and enhance their communication skills. At the company's German subsidiary (Contemporary Controls GmbH), Kevin Fenner believed his internship allowed him the opportunity to act on his strengths and improve on his weaknesses.

Jason Zhang

Currently, Zhang is attending the Illinois Institute of Technology in Chicago, Illinois and getting his Master's Degree in Electrical Engineering. "Interning at Contemporary Controls allows me the chance to see how a company operates," he says. "In my particular area, I'm learning the different stages in how a product is produced, including the testing process." As a native of China, his goal is to learn more about the American culture and improve his English. But what matters most to him is to receive more work experience.

Nithya Nair is also attending the same university with similar educational goals but specializing in Computer Networks. At the company Nair contributes her knowledge to various aspects of Research & Development in the field of networking for this is her objective.

Nithya Nair

Nair's home is Trivandrum, Kerala which is a southern state of India. She tells her family and friends that this internship is a stepping stone in her professional life in the future. "It allows me excellent exposure of the work environment and the necessary background to acquire a good job," says Nair.

Kevin Fenner was an intern at Contemporary Controls GmbH until he had to return to school at the University of Applied Sciences in Merseburg, Germany. Fenner is studying Economic Engineering and IT. Fenner applied his IT knowledge to create a bar coding system for the re-labeling of products. He helped his colleagues with any translation issues like German into English as well as maintaining the company's websites. Like Zhang, his internship has provided him the fundamentals of running a business as well as putting his English into practice. He has learned many new computer languages which is very beneficial.

Kevin Fenner

As for his future, Fenner is taking it day-by-day. "Education is a priority, but I hope after graduation that I can remain at Contemporary Controls GmbH," he says. Fenner as well as the other interns are an integral part of the companies. They help them to grow and to prosper.

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US fax back and e-mail:
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info@ccontrols.com

UK fax back and e-mail:
+44 (0)24 7641 3923
ccl.info@ccontrols.com

Germany fax back and e-mail:
+49 (0)341 520359-16
ccg.info@ccontrols.com

China fax back and e-mail:
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info@ccontrols.com.cn

- How does the BAS Remote I/O compliment the Modbus protocol in creating "the island of information" concept?

- Tech Update discusses what occurs when you can't reach an IP address.

- The Extension Supplement reviews the Modbus Serial and Modbus TCP implementations allowing Modbus to remain a very popular protocol.

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