BACKGROUND

The customer site is a Data Center for a major telecommunications provider located in Queens, New York. This is a critical environment - an HVAC outage could result in equipment overheating and shutting down causing service outages for millions of customers. RGBS has been working with the customer for over 5 years, but this project marked the initial work within this data center.

CUSTOMER REQUIREMENTS AND GOALS

RGBS needed to integrate with an existing Metasys® system. There were 2 NCMs in place that connected to about 100 controllers in the field. The system had a single workstation running an old version of Windows that was the only point of access to the system. If that computer or the NCMs failed, the customer would have lost access to the system. The goal was to integrate into the system, leave the existing front end in place, and create a new front end. Once the new front end was in place, they would slowly transition to it. The RGBS team had to demonstrate to the customer that they had the same read and write abilities on the new front end, that they previously had on the old front end. They were able to look at both the new and existing systems at the same time, and compared values to make sure the data was correct on the new system.

ABOUT THE PROJECT

The initial approach was to interrupt the N2 daisy chain and install the Tridium Jace in the middle of it. This approach was not successful when it was quickly realized that the devices did not like having 2 masters on the bus. After some research into options, RGBS reached out to S4 for help in developing the final solution. Using the S4 Open: BACnet-N2 Router provided by S4 seemed like the only solution that would fit all of our needs.

The network drawings that were available showed about 100 devices connected on a single N2 network to 2 redundant NCMs. After installing the first N2 router, and connecting to a Tridium FX80 via BACnet/IP, only half of the equipment was visible. After working with the S4 team it was determined that a 2nd BACnet-N2 router was required to pull in the information from the second N2 bus. So the original drawings were incorrect, and the project needed to be adapted on the fly.

Two S4 Open: BACnet-N2 Routers were installed to tie into the 2 N2 networks and leave the NCMs in place. Minimizing down time was critical so the ability to co-exist with the legacy Metasys® supervisory controller for a transition and validation period was instrumental in the project success. The Supervisory Controller as a BACnet Client feature made control of points completely deterministic. At all times it could be determined if the NCM or the FX80 was controlling a point.

RESULTS

The client is still transitioning to the new system. They are still able to see and control all of the equipment on both systems, and the ability to navigate the system is greatly improved. New Niagara 4 HtML5 based graphics were provided, which is a huge step up from the graphics they had in place before. Trending was added and is being sent to the cloud for long term storage and analytics. This was impossible with the old system, since it was only accessible from a single, isolated machine.

The customer has a long term migration plan in place which RGBS designed with them. The plan is subject to budget restrictions, which is why it is was critical to get the N2 router into the building to backup the system in case of any failure

The customer appreciated all of the hard work and ingenuity that went into coming up with this solution and are happy to have a backup plan in place.

The main goal of having a redundant front end was achieved. The customer has the ability to control and read the data correctly on both systems

PARTIES INVOLVED

RGBS ENERGY

We are a controls company that has integrated with many different types of systems in the past. We mainly work with Distech controls and Tridium JACEs, but we have worked with JCI, Honeywell, Andover, Daikin, and many other different types of controls.

RGBS Energy prides itself in providing resiliency, innovation and resourcefulness to every one of its customers and has a reputation that supports these skills. If you want any more information about this project or others, please contact Tom Macor, Service Manager: tmacor@rgbse.com

ENABLING TECHNOLOGY PROVIDED BY S4

The S4 Open: BACnet-N2 router has always been the enabling technology to cost-effectively migrate legacy Metasys® N2 systems to BACnet. Each N2 device is published as a virtual BACnet/IP device under a virtual BACnet network, further streamlining the integration process and saving time and money for the integrator and building owner. By using the configure wizard feature, the integrator was able to complete the integration task and be in a co-existence mode with the replacement BACnet environment within 4 hours.

For more information on how the S4 Open products can help you build your business, contact Steve Jones at sejones@thes4group.com or call 801-621-1970.

CONTROLCO

Controlco, S4 Group Distributor Partner, delivered the S4 Open Products to RGBS and was able to provide support to the project. Controlco delivers leading-edge automation and control solutions, products, and services that improve business performance and peace-of-mind for commercial and industrial building operators. For additional information, please visit the Controlco web site at http://www.controlco.com or contact them at sales@controlco.com (800) 800-7126.