

ABOUT THE CUSTOMER

Paape Companies and a South-Central Minnesota Law Enforcement Center have a long-term business relationship. The customer developed confidence in Paape due to their strong support and a service team that has been successful in repairing aging JCI N2 field controllers when competing service organizations were not able to deliver this service. Eventually, the Facility Explorer supervisory controller supporting the JCI N2 and FEC local controllers failed and the customer lost visibility and control of the Facility Explorer building automation system. The Paape integration team was called in to find a replacement for the Facility Explorer Panel.

PROJECT REQUIREMENTS

The immediate goal was to regain visibility and control of the building. The customer also requested a long-term path to upgrade the legacy BAS to Schneider Electric's StruxureWare platform of controllers with minimum impact to their ongoing operations.

The existing JCI N2 system consisted of 8-DX9100 controllers for AHU's, Boilers, and Chillers; 31-N2 VAV's; 6 – N2 UNT's for a variety of equipment; the existing Facility Explorer system consisted of 1 – FEC AHU, 18- FEC VAV's, 4- FEC and miscellaneous controllers across two buses.

IMPLEMENTATION



Paape's initial goal was to move the customer to the main Schneider Electric platform so the only viable option that was considered was the S4 Open: BACnet-N2 router. The S4 Open: BACnet-N2 Router would pull in the existing N2 field bus. The FEC bus communication line was moved to the Schneider Electric AS-P to pick up the FEC points.

The major technical components used in the project were the Schneider Electric AS-P controller, Schneider Electric StruxureWare graphics and user interface, and the S4 Open: BACnet-N2 Router.

The failed Facility Explorer supervisory controller was removed and the S4 Open: BACnet-N2 Router was installed as the bus master for the Metasys® N2 field devices remaining on the bus. The FEC bus was wired directly to the AS-P bus and the S4 Open Management Console was installed on the integrator's laptop system. Next, the S4 router was assigned to the BACnet backbone network and given a unique BACnet device instance number. The final preparation steps were to assign a unique virtual BACnet network number to the S4 Open: BACnet-N2 Router and

confirm that S4 device templates were available in the catalog for all required devices.

After the network configuration was complete, the Configure Wizard could be run in the S4 Open Management Console. It discovered all of the legacy N2 devices on the bus, and determined the correct hardware type and application loaded for application specific controllers. The wizard automatically selected and assigned the correct S4 template to each device and initiated publishing all available points to BACnet.

The installation of the S4 Open: BACnet-N2 Router went well, due in part to the Paape team previously attending an S4 Boot Camp at the S4 offices in Ogden, Utah. John Bearden added "The S4 product is the only product I use when upgrading older JCI hardware. It is a solid product, easy to install, configure, and trouble shoot on the site."

The second deliverable was a risk management plan to define the actions to be taken if/when legacy N2 devices fail before they were scheduled to be replaced. This was a continuation of the maintenance and support process that was already being delivered to the site.

The final deliverable was a plan defining when and how legacy Metasys® N2 systems would be replaced in a way that minimizes the impact on building operations and budget. Executing this plan was the ultimate goal for the project.

CUSTOMER SATISFACTION

Outcomes

The greatly improved graphics were immediately noticed by the customer as a huge improvement compared to what they had on the JCI Facility Explorer system. One of the main success factors was the expertise that Paape had in the JCI Metasys® N2 controllers. This enabled them to quickly develop graphics that accurately reflected the control systems and provided the operator access to adjust the system for optimal performance, very quickly adding value with their solution.

The customer was very happy with the initial temperature control improvements in the building. During the first phase, Paape utilized the S4 Open: BACnet-N2 Router to enable StruxureWare to control the building and deliver improved graphics and navigation to the user. Then, they immediately put the short term risk management plan in place to keep the N2 bus and devices operational.

Since then, all of the N2 and FEC controllers have been replaced with StruxureWare field devices and the entire building is now under StruxureWare control.

In this final configuration, the building is under better control than before because of the improved capabilities of the new Schneider Electric controllers. In addition, the Paape team went through the entire building and repaired failed mechanical systems that were impacting the performance of the building that the customer did not realize were defective.

A satisfied customer, quick ROI for the initial integration, an upgrade path from old JCI hardware to Schneider products, resulting in the customer receiving emails when any of the equipment goes into alarm, and return service work because of the planned transition strategy and execution - the project was successful.

ABOUT PAAPE

In 1948, Elden Paape opened a small repair and service company to fix and maintain boiler systems. His company of one man quickly grew into a full staff of professionals including certified pipe fitters and welders, trained installation and service technicians, and knowledgeable sales representatives. The Paape Company, well-known for its expertise with boilers and other pressure vessels, became the authoritative local source for new innovations and equipment. To better meet the needs of customers in its expanding service area, a Rochester branch office was added to the original Mankato location.

The Paape Energy Services division was formed in response to the integration of mechanical systems and increasingly sophisticated electrical and electronic controls. This division specializes in facility automation and efficient energy use.

Paape Security Services is also a product of new technology and changing needs. Today companies of every size are concerned about physical security. The intelligent, scalable systems we design and install provide business owners with effective, economical ways to safeguard their investments.

For customers in southern Minnesota, Iowa and South Dakota, we have, and always will, provide the finest technicians, equipment and materials to ensure safe, modern and efficient systems.

Paape Companies Inc. is a leader in providing superior quality Building Automation, Security, Card Access, Surveillance Cameras, Boiler/Burners, and HVAC Mechanical Service.
