
CASE STUDY: A LUXURY HOTEL

Automated Logic WebCTRL N2 Metasys(r) Integration provided immediate decrease in energy costs

ABOUT THE CUSTOMER

The customer is a local franchisee of an internationally known luxury vacation property and hotel chain doing business in more than 100 countries worldwide. The property is a 23 story, two-tower beachfront hotel in the Southern Florida area and includes 346 hotel rooms and 171 condo-hotel units.

CUSTOMER REQUIREMENTS

The customer requirement for this project was to upgrade their existing Johnson Controls Metasys® system to a BACnet open protocol system and also integrate their two Carrier chillers using CCN protocol to BACnet. They wanted us to install a new front end system that allowed future replacement of all the existing Johnson N2 controllers to BACnet. They wanted us to use a chiller setpoint reset sequence program that would allow big chiller energy savings.

One goal of the integration was to have a brand new user friendly front end graphical user interface (GUI) that would provide more visibility to system status and performance enabling their staff to run the equipment more efficiently and lower their down time on HVAC equipment. The primary goal was to save the energy. The hotel property is incentivized on the amount of energy they save.

About the Project

The major technical components used were the S4 Open: BACnet-N2 router that allowed us to complete the integration into the Johnson N2 protocol Metasys® system and the Automated Logic LGR router/gateway that provided the application platform for implementing the required improved sequence of operations and algorithms. The S4 Open: BACnet-N2 router allowed us to import all N2 control points into the Automated Logic WebCTRL system as if they were native BACnet devices. Once the N2 points were assigned to their proper HVAC equipment we could display it on the Automated Logic WebCTRL GUI. The system now allowed the customer to upgrade his system slowly to the open BACnet protocol.

Initially we did not know the condition of the existing Johnson Controls system. One of our first steps was to go into the Metasys® system validate the condition of the N2 bus, and evaluate all working and non-working controllers. We used the ComBus Quick Tester to verify the two N2 buses were operating correctly to specifications. There is a total of 25 air handlers, over 40 VAVs, 6 fan coil units, 4 cooling towers, 6 pumps, two 800 ton chillers. The initial approach in this project was to be able to offer a customer a solution that would allow them to upgrade their existing proprietary HVAC BMS system to a BACnet open protocol system.

We utilized the coexistence capabilities of the S4 Open: BACnet-N2 Router Upstream N2 Interface to keep the Metasys® supervisory controller in place during the transition period just in case we need to switch it over. We did not, once the integration discovery of all N2 points was made, we disconnected the NAE 30 from the system. Decommissioning the NAE 30 was literally that easy. We simply unplugged it! The Supervisory Controller as a BACnet Client option forced the N2 transactions coming from the supervisory controller to participate in the BACnet priority array mechanism giving us deterministic and predictable interaction between the legacy Metasys® supervisory controller and our new Automated Logic head end.



www.thes4group.com

CASE STUDY: A LUXURY HOTEL

Automated Logic WebCTRL N2 Metasys(r) Integration provided immediate decrease in energy costs

By offering the S4 group solution, we can upgrade their system gradually and cost effectively when it fits their operations schedule and business plans. Reducing their initial costs and spreading out the upgrade over several years if needed.

Before offering the S4 group solution, we offered the option of a complete controller replacement to the customer. The costs to do this initially was 4 times the costs of offering them the S4 group solution.

OUTCOMES

Currently the site is working 100% under the Automated Logic WebCTRL GUI and LGR global control. All of the HVAC controllers and sensors remain. The existing Johnson Controls NAE 30 is completely offline. We have integrated into the chillers using Carrier CCN to BACnet routers that allow us to monitor and control the two chillers. We wrote a new additional sequence of operation for the chillers that based on outside air temperature the chiller's setpoint would reset from 42-46 degree F. We also set schedules for the VAVs with occupied and unoccupied setpoints. Base on those changes, the hotel experienced a substantial reduction in energy costs

The customers experienced no equipment downtime during the integration. More importantly, there was no impact on the hotel's operation. It was business as usual throughout the integration process. The S4 Open: BACnet-N2 routers allowed us to do everything live with no down time. The important final result was that they were able to save a large amount of energy by managing the efficiency of the chillers.

The customer was very pleased with the ease of transition from the Johnson Controls head end to Automated Logic technology. The Customer was given an open BACnet protocol front end GUI system. The Carrier chillers where now being internally monitored and controlled. The customer saved energy only after the system running for two months.

The outcome was measured by monitoring their electric bills.

This hotel chain incentivizes their property operators on the amount of energy they save. Within two months of completion of the project this property was listed among the top 10 energy efficient hotels in the nation in their corporate newsletter.

CASE STUDY: A LUXURY HOTEL

Automated Logic WebCTRL N2 Metasys(r) Integration provided immediate decrease in energy costs

Gulfstream Controls



Gulfstream Controls received this lead through Carrier Service South Florida. We work together in the South Florida because both Carrier and Automated Logic are owned by United Technologies. We also knew the chief engineer through a prior relationship at another building he use to manage.

Gulfstream Controls has been doing building automation controls for 6 years. Our experienced control techs with both HVAC and controls knowledge that sets us apart from other controls contractors. We offer full engineering drawings, programming, installation, commissioning, and training in house. Our personnel has over 40 years total of experience in HVAC systems.

For more information contact

Ed Duran

Building Automation Manager

305-770-8262 eduran@gulfstreamcontrols.com