

*Energy Efficiency and Occupant Comfort Improvements*



## About the Project

### Customer Location

The Shoppes at Buckland Hills Mall is located in Manchester, Connecticut, serving the Hartford area with approximately one million square feet of retail, featuring five anchor stores and 140 shops and restaurants. It is operated by General Growth Properties, Inc. (GGP) an S&P 500 company focused exclusively on owning, managing, leasing, and redeveloping high-quality retail properties throughout the United States.

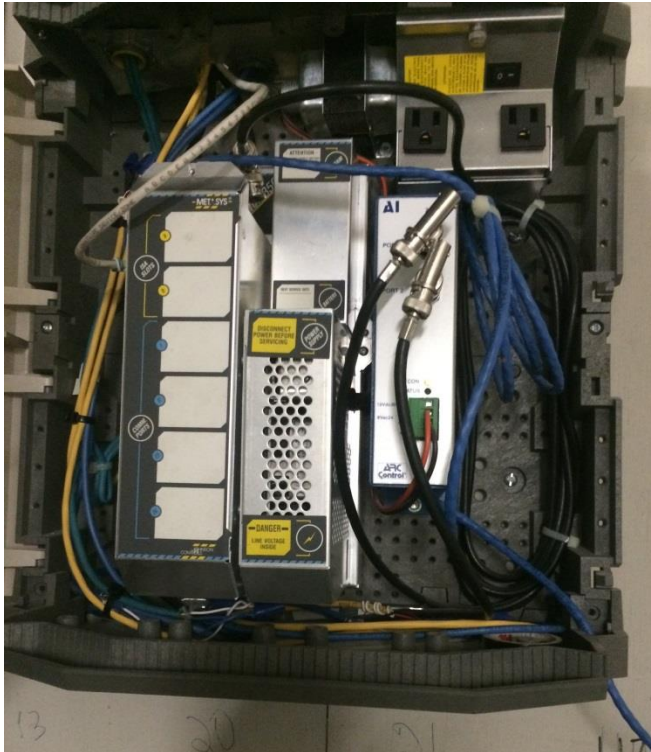
### Customer Needs

GGP's has a program of ongoing redevelopment and reinvestment for its properties and continues to grow as GGP reinvests to make malls of today better for tomorrow. As part of the overall renovations and energy efficiency improvements for this property, the Legacy Johnson Controls Metasys® BAS

system needed to be updated to a state where it could be integrated into an enterprise system for monitoring, control, and analytics.

Controlco has a long standing ongoing relationship with GGP and has provided building automation support and upgrades at many of their properties. Because of this history, Controlco was chosen for this project.

## Project Goals



The goals of this segment of the redevelopment project were to cost effectively upgrade the BAS serving the mall property to provide improved control and monitoring of property environmental conditions, to improve occupant comfort, to improve energy efficiency, and to migrate the control systems in the facility towards an open environment to accommodate current generation value added applications and improve their competitive position for future upgrades.

Success was to be measured by the ability to monitor the system from anywhere with an internet connection. Success also meant the ability to adjust setpoints, schedules, and the potential for better analytics, with the intent to identify areas or systems in the property that need or could be improved.

## Project Approach

The Controlco team inserted a S4 Open: BACnet-N2 Router to manage each of the Metasys® N2 field busses connected to supervisory controllers to pick up the field bus controllers and points. The plan was to have each N2 Router model the Metasys® N2 controllers and points as virtual BACnet devices. This allowed complete flexibility in choosing the appropriate head end systems to provide proper accurate control and monitoring of the legacy system.

A complete investigation of the legacy installation was conducted before starting the integration process. The ComBus Quick Tester was helpful in that it indicated that field networks were in reasonable shape to allow integration and all N2 devices were responding.

In a high-end retail environment such as the Shoppes at Buckland Hills, occupant comfort is one of the critical factors to the ongoing success of the mall operations. The N2 Router allowed the legacy Metasys® supervisory system and operator workstation to continue operation in parallel to the integration process, making that process undetectable to mall operations staff and shoppers. The legacy workstation remains in place to support service and support work on the legacy N2 devices using standard Metasys configuration and commissioning tools. Keeping the Metasys® head end in service also supplies redundancy for systems monitoring and operations.

Using the S4Open:BACnet-N2 routers was the solution that made sense for the customer's needs. In this case, the S4 Router made the job possible.

## Solution

- Five S4 Open: BACnet-N2 Router Appliances, sized appropriately for each N2 network.
- The S4 Open Management Console Software.
- Five Proprietary N1 NCM Network level controllers.
- The legacy Metasys Operator Workstation with N2 commissioning and configuration tools.
- Legacy N2 field networks of various HVAC application specific control units and Lighting controls.
- A Tridium JACE platform providing hosting the new head end functions

The S4 Routers were installed into each of the 5 networks on the property. JACE was also installed to pick up all the newly available BACnet points for use in the new front end. Jordan Flick commented, "Installation was easy, cut over was quick, not much down time."

## Outcomes

The customer was able to have their system presented in a new platform and front end with updated UI features and analytics. Also included was the ability to monitor the system anywhere there is an internet connection and the ability to adjust set points and schedules.



Successful site integration of the legacy system was achieved at a fraction of the cost of a total replacement of the EMS. This approach prolonged the useful life of the current legacy N2 field

equipment and set the stage to add and upgrade the legacy equipment in a controlled and coherent manner.

### **About Controlco**

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. With state-of-the-art software and industry leading products as well as a full suite of value-added services, we offer total solutions for your energy management needs.

Since 1958, we have completed successful implementations in energy monitoring, enterprise-wide energy dashboards and customized energy-saving strategies for hundreds of clients across the country. We actively participate in controls and integration projects of all sizes and we serve numerous vertical markets including k-12, higher education, pharmaceutical, petrochemical, water/waste water, data centers and commercial real estate. Many of these projects follow the LEED process in which we are an active participant.

Controlco is a member of the Controls Group North America (CGNA) the leading network of Distributors and Manufacturers in the HVAC/R, commercial and industrial controls industry [cгнаcontrols.net](http://cгнаcontrols.net).

For additional information, please visit the Controlco web site at <http://www.controlco.com> or contact them at [sales@controlco.com](mailto:sales@controlco.com) (800) 800-7126.

### **About The S4 Group, Inc.**

The S4 Group, Inc. is an innovator in software and network appliance development. Products include the S4 Open family of network appliances that unlock legacy BAS to open protocols such as BACnet and OPC.

For additional information, please visit our website at [www.thes4group.com](http://www.thes4group.com) or contact Steve Jones, [steve@thes4group.net](mailto:steve@thes4group.net)