

Case Study

Callaway: Gardens, Resort, Preserve uses Vykon® by Tridium® to drastically cut costs while improving customer satisfaction



Callaway's Cecil B.
Day Butterfly Center

Callaway: Gardens, Resort, Preserve is an award-winning, 14,000-acre garden retreat nestled in the southernmost foothills of the Appalachian Mountains in Pine Mountain, GA. The golf resort includes 800 guest rooms in its hotel, villas, and cottages as well as an 18,000 sq. ft. butterfly center, a 20,000 sq. ft. greenhouse/conservatory, a 35,000 square foot executive conference center and a newly opened 53,000 sq. ft. meeting facility with ballrooms, restaurant, lounge and kitchen. In addition, Callaway has 36 championship golf holes with an extensive Pro Shop and lounge.

With its own central chiller plant, water treatment plant with domestic water distribution, sewage treatment system, and backup power generation, Callaway is a city within itself. Managing the enterprise and all the assets was challenging.

With such an abundance of services and amenities, the engineering staff was spending a significant amount of time traveling between facilities and responding to menial service calls and alarms. This significantly diminished their ability to proactively manage their facilities. They needed to implement a more efficient process.

The energy expense was another concern for Callaway as it was spending several million dollars annually with an aggregated peak demand of approximately 40 Megawatts. Callaway wanted to implement aggressive demand limiting sequences to reduce peaks and lower costs, but needed to integrate electric metering devices with various automation systems.

Callaway installed *Vykon® by Tridium®* to help solve these problems. By integrating the unique systems in the facilities and providing access through a browser, Callaway gained dramatic efficiencies. Using Vykon, Callaway now can monitor and control temperatures, humidity, mechanical systems electrical systems, security, irrigation, and more.

About Callaway: Gardens, Resort, Preserve

- 14,000 acre resort includes 800 guest rooms, more than 96,000 sq. ft. of meeting space, 36 holes of golf, and many garden attractions.
- On-site utilities including water treatment plant, chiller plant, sewage treatment plant, and backup power generation.
- 24-hour monitoring center.

Callaway requirements

- Better management of its facilities including temperatures, fire, lighting, humidity, and energy.
- Major reductions in energy and labor expenses.
- More immediate and efficient response to unfavorable conditions.

Vykon Provided

- Integration of existing building automation systems to extend their life and enhance their functionality.
- Real-time control and monitoring to provide alarms through a browser and the ability to change system configuration accordingly.
- Control logic between unique systems that make system changes without manual intervention.

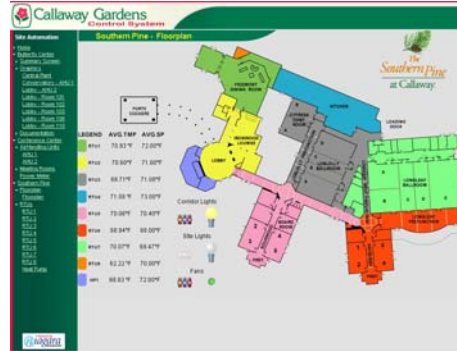
Benefits to Callaway

- Automated electrical demand limiting has saved over half a million dollars.
- Drastically reduced cost of maintenance.
- Improved response time for engineering staff.

Vykon by Tridium implemented by Callaway: Gardens, Resort, and Preserve to release the handcuffs of dedicated front-ends

“Using Vykon, we have been able to lower expenses while increasing productivity. Running something the size of a city, this product has allowed us to do more with less.”

Cliff Strickland – Callaway’s Engineering Manager, Mechanical



The Challenge

The Callaway Gardens and Resort faced significant challenges with its dozens of automation systems throughout the 14,000-acre resort. Each system had a dedicated and cumbersome user interface that could only be accessed from the Callaway control center. Many times maintenance staff would return to the control center after a service call only to find they needed to visit a building in the same area from where they had just returned simply to make lighting or temperature adjustments.

In addition to control systems, electric meters needed to be integrated with other systems for electric demand limiting. This Machine-to-Machine (M2M) hierarchy required real-time communication between devices for the demand limiting programs to be reliable and automated.

Although Callaway was eager to implement the energy saving strategies, it was essential not to compromise customer comfort. To implement appreciable demand limiting without affecting comfort meant Callaway would have to look for reductions beyond traditional HVAC and lighting systems.

The Solution

Callaway chose *Vykon by Tridium* to meet its needs. Vykon is an open technology that integrates diverse systems into a unified network. Because Vykon is a thin-client, web-based suite, anyone with proper security clearance can access the system. This allowed Callaway to delegate basic lighting and temperature adjustment calls to administrative staff,

thus freeing up valuable engineering resources. In addition, response time has seen dramatic improvements as the web-based suite allows employees to make appropriate changes from any computer on their network. Maintenance travel time has been dramatically reduced as Vykon is configured to send real-time alarms, allowing resources to be dispatched within geographic areas versus repeated roundtrips to the control center.

Vykon also enabled a sophisticated demand-limiting program. In addition to shedding electric load through HVAC and lighting systems, Callaway integrated its golf cart charging system. Carts are charged when returned allowing it to continually recycle carts throughout the day. Applying demand-limiting on the cart charging system guarantees Callaway will not be charging carts during costly periods. “We needed to get creative”, said Cliff Strickland, Engineering Manager, Mechanical for Callaway. “Vykon provided the flexibility to integrate a variety of systems”.

The Benefits

Since installing Vykon, Callaway has and continues to reduce energy consumption at crucial times saving hundreds of thousands of dollars annually. The peak kW has been reduced by over 30% in areas where demand-limiting has been implemented. Response time has improved and technical resources are more efficient. Callaway’s payback on its investment was less than a year and the company continues to expand the system and generate additional savings.

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