

McKenney's Helps Customers Optimize Operations and Save Energy



Executive summary

McKenney's, Inc. is one of the most trusted mechanical contractors in the Southeast. The firm offers services including heating, ventilating and air conditioning (HVAC), process piping, plumbing, service and maintenance, and building automation and control systems. When McKenney's wanted to provide users of its bdoc® building control system with historical perspective and business intelligence capabilities, it needed a way to integrate data generated by thousands of devices and systems. Since integrating Splunk Enterprise with its bdoc control system, McKenney's and its customers have seen benefits including:

- Real-time and historical operational insight
- Improved management of energy usage
- Actionable business intelligence

Why Splunk

McKenney's provides systems that enable customers to manage their facilities for optimal comfort, cost savings and energy efficiency. One of the greatest challenges in achieving these objectives is integrating the data generated by a wide array of disparate systems and devices. "It can be very difficult to collect the data from many siloed systems, and the challenge multiplies when you have to then put it into another system for analysis," explains a McKenney's program manager. "Our goal is to provide a value-added layer of business intelligence to building control systems that allows the user to gain actionable intelligence."

McKenney's original bdoc® solution enabled customers to take point-in-time snapshots of all physical asset information across systems from many different vendors and different data formats. However, pieces of the original system lacked the capability to provide a historical perspective, making it difficult to track trends and perform failure forensics.

The bdoc team first discovered Splunk during a building control system upgrade project at a customer site. "They took me into their network operations center where they had a wall full of Splunk dashboards," the program manager recalls. "They wanted us to help them show graphics

Industry

- Technology (infrastructure management - mechanical contracting/engineering)

Splunk Use Cases

- Business analytics
- Internet of Things (IoT)

Challenges

- Integrate data from thousands of disparate building control devices and systems
- Provide historical perspective to track trends and perform failure forensics
- Develop business intelligence capability for bdoc solution
- Accommodate challenging new customer demands

Business Impact

- Real-time and historical operational insight into thousands of devices across hundreds of square miles
- Continuous collection and aggregation of data from the Internet of Things
- Enables customers to better manage energy usage
- Easily track trends and perform failure forensics
- Value-added layer of business intelligence
- Partnership with other Splunk integrators that saves development time and resources

Data Sources

- Thousands of data-producing devices, thermostats, instruments, access points, equipment, valves and controllers
- Third-party building control and supervisory systems
- Tridium Niagara Framework and NiagaraAX
- RedCloud access management solution

Splunk Products

- Splunk Enterprise

from the power system, supplementary cooling and the central plant in the same types of dashboards. As we began to build the business intelligence piece, we used Splunk Enterprise to add a timestamp to our data, allowing us to finally do the complex historical aggregation we were missing.”

Enhanced bdoc takes off

McKenney’s was subsequently enlisted to assist Gulf Power and its partner Chevron Energy Solutions in implementing a new energy management system at the 724-square-mile Eglin Air Force Base in Florida. The bdoc group applied its in-house experience with Splunk to provide bdoc with continuous collection and aggregation of data from almost any energy management, IT infrastructure or building control system. This enhanced version of bdoc uses Splunk software to help monitor and analyze tens of thousands of sensors and data from more than 100 Eglin buildings.

The new Eglin energy management system (EMS) will utilize the Splunk-enhanced bdoc solution to provide dashboards that will help base maintenance staff to assess building performance and energy efficiency, generate automated energy usage reports, compare current energy usage with historical data, and enable the deployment of load shedding and load shifting to take advantage of favorable electric rates. The project is projected to save about \$2.5 million annually, with a payback period of less than three years.

Building intelligence = strategic advantage

The Splunk-enhanced bdoc solution provides for better fault detection and diagnosis, supports the practice of continuous commissioning, integrates physical infrastructure with business practices, and provides correlation between building and operational intelligence. According to the program manager, “We’ve always allowed customers to see what was

“Our original goal was to use Splunk software to bridge the gap between the boiler room and board room. What we discovered, however, was that the guys in the boiler room and in the facility, property and energy management groups are all now able to gain the same insights and same values from the system. It’s become a collaborative tool where everybody can gather around the same data and see the same big picture.”

Program Manager, Enterprise Intelligence Group Automation & Control Solutions

McKenney’s, Inc.

happening in the three-dimensional space that their facilities occupy, but it was just a real-time view and lacked historical perspective. By using Splunk software to capture and index data, we now enable customers to compare averages and see trends in usage.”

Delivering value on many levels

The integration of Splunk Enterprise into the McKenney’s bdoc solution is also helping to open doors with customers and potential partners. The firm partnered with RedCloud, a fellow Splunk integrator and provider of web-based physical access control systems. McKenney’s uses Splunk software to integrate RedCloud and bdoc to provide aggregated event management for a combined building control and access management solution.

“For a small team like ours, the Splunk platform is so accessible that it gives you a head start,” the program manager concludes. “I can’t even comprehend trying to build what Splunk already gives you. It easily saved us hundreds of thousands of dollars in development costs.”

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