

# Accelerating BMS (BACnet) Data Connectivity for SaaS-based Energy Analytics

## Overview

A leading provider of SaaS-based energy intelligence software faced a challenge. In an increasingly competitive business environment, they needed to reduce cost and complexity, and accelerate time-to-data for smart building deployments.

They evaluated Altair SmartEdge™ – a key component of Altair’s smart building solutions and the Altair SmartWorks™ software suite – to see if it could help them gain an advantage.

The SaaS provider ran a comparison test at a premier customer’s building, and the results were impressive. They discovered they could accelerate time-to-revenue, speed project time-to-completion, and reduce customer onboarding costs by using SmartEdge to acquire data from control systems.

## The Smart Building Challenge

With over 15,000 buildings using its proprietary analytics platform and a host of building portfolio managers to keep happy, the SaaS provider required fast, reliable, low-cost access to energy data from customers’ commercial buildings, enabling its platform to deliver energy insights.

Historically, the company had acquired data from commercial buildings by installing a well-known legacy building controller device to interface with the existing building management systems (BMS), reading up to 100 data points over a BACnet network.

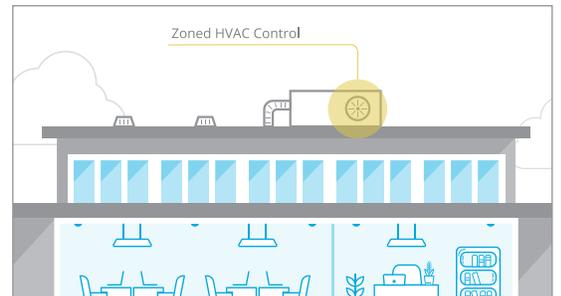
That building controller device is very technical to manage and install. Its software requires special licensing and programming knowledge. Each installation requires specialized personnel and creates a significant burden on internal resources. It’s necessary to work closely with the customer’s IT and facilities departments to overcome objections related to security, network or firewall configuration issues, or potential for interference with the existing BMS. As a result, it typically requires 60 to 90 calendar days to complete an installation and onboard a building before they can access its data.

They knew there had to be a better way to get the data that was so critical to the success of their smart building analytics platform.

## Altair SmartEdge vs. Legacy Technology

The SaaS provider ran a comparison test at a prominent San Francisco Bay Area customer’s headquarters building. The 120,000-square-foot, 3-story office building had an existing Johnson Controls Metasys® BMS to control its HVAC systems, with energy data available via a BACnet IP connection. The goal was to compare their current data acquisition system with an Altair-powered gateway and evaluate the cost, complexity, and time-to-data of each approach.

The original installation had followed a standard process. An in-house team engaged with the client and deployed the legacy building controller device at the site to collect data from the JCI Metasys. The installation required approximately 70 calendar days to complete, and over 20 days of that time was attributed to IT approval and commissioning alone. The total cost was over \$4,200, typical for this kind of installation.



In comparison, the same scenario was tested using an Altair-powered gateway. The Altair-powered third-party gateway is IT-friendly, discovers BACnet devices automatically, and is configured remotely. No sophisticated programming work was required at the gateway level to integrate with the BMS. In fact, the IT director was able to self-install the gateway without prior training, and only required brief remote phone support.

Once the Altair gateway was powered up, the onboard SmartEdge software quickly connected via BACnet IP to the JCI Metasys, and they were able to remotely identify and commission the data feeds via a secure, encrypted connection. The entire system was up and running in less than two hours from the time the client received the gateway, feeding critical energy data to the SaaS provider's proprietary application via Altair's open API. After introductory phone calls to the client, the calendar time-to-data for Intel® BMP gateway was about 2 days, with a total installed cost of about \$1,200 – a significant improvement over the legacy system.

## Highlights

- Time-to-data via the Altair-powered gateway was about 10x faster than the legacy system (after initial customer onboarding). Including IT approval, gateway setup, and data provisioning, the SmartEdge solution was installed in 2 days compared to over 20 days for the legacy system.
- The \$1,200 installed cost of the Altair solution was nearly 4x lower than the legacy system's \$4,200 installed cost.
- The SaaS provider's field team and the customer's technical staff each reduced their overhead labor by many hours because of the ability to drop-ship, self-install, and quickly configure the Altair-powered gateway.

## The Bottom Line for Smart Buildings

The comparison test of Altair technology vs. the legacy system demonstrated significant improvements in deployment speed, ease of commissioning, security, network readiness, and overall cost. The SaaS provider achieved excellent results by using SmartEdge to deliver smart building data from BACnet devices at their client's property.

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