

Case Study

Samsung DVM HVAC Integration with EcoStruxure

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Overview

Fronthill Limited needed to integrate a large Samsung DVM HVAC system into a Schneider Electric EcoStruxure StruxureWare BMS. The site included 15 Samsung DVM outdoor units and 145 indoor units connected through a Samsung DMS 2.5 BACnet gateway.

Although the Samsung gateway and downstream BACnet objects were visible in Chipkin BACnet Explorer, Schneider EcoStruxure could only discover the Samsung gateway device itself. The indoor and outdoor unit points were not available to the BMS, preventing the client from centrally monitoring and controlling the full HVAC system.

After reading a previous Chipkin case study involving Schneider BMS interoperability, Fronthill contacted Chipkin for assistance. Chipkin used a FieldServer QuickServer Gateway to bridge the gap. The QuickServer read the Samsung DVM BACnet/IP points from the Samsung gateway and made them available to Schneider in a BACnet/IP structure the BMS could reliably discover and monitor.



The Challenge

This was not a standard protocol conversion project. Both systems used BACnet/IP, but Schneider EcoStruxure could not properly discover the downstream Samsung DVM devices behind the Samsung DMS 2.5 gateway.

The Samsung gateway appeared to expose the indoor and outdoor units as virtual BACnet devices. Chipkin BACnet Explorer could discover these devices and read their points, but Schneider could only see the main Samsung gateway device.

The issue was tied to BACnet discovery behavior. The Samsung gateway responded to Who-Is requests with unicast I-Am messages for the downstream devices. Schneider did not appear to process these responses in the same way, so the indoor and outdoor unit points were not exposed in the BMS.

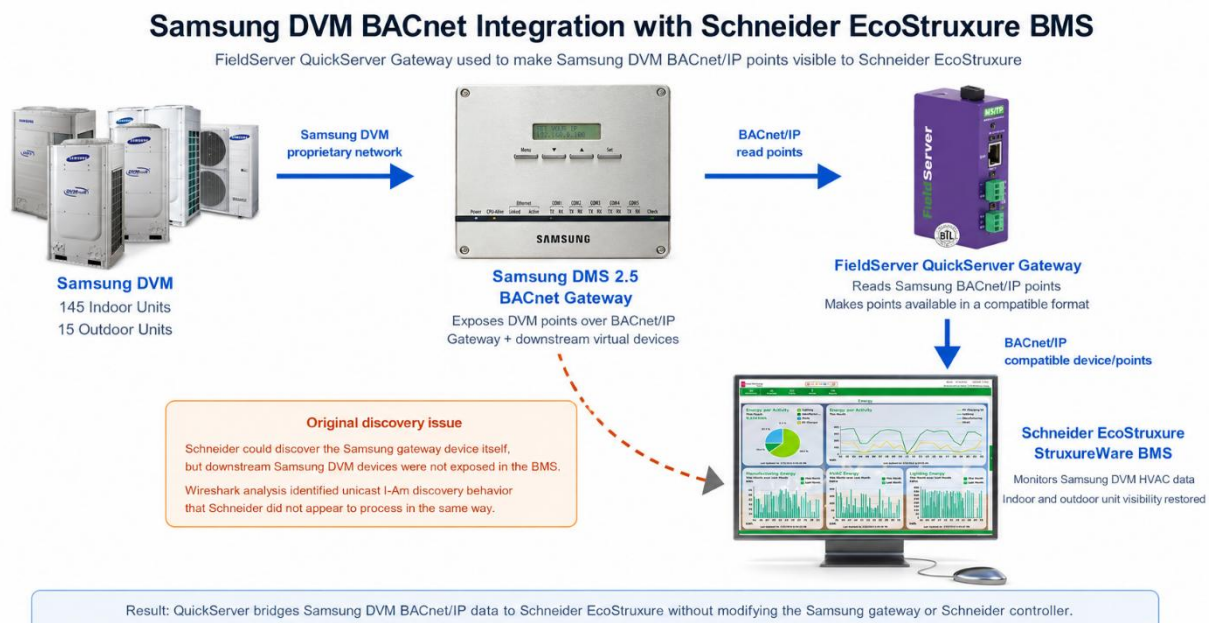
Additional challenges included:

- Approximately 160 Samsung HVAC devices.
- Approximately 4,800 BACnet points.
- Limited ability to modify the third-party Samsung gateway or Schneider BMS, requiring a solution that could work between the two systems.

Chipkin's approach to the solution

Chipkin recommended installing a **FieldServer QuickServer Gateway** between the Samsung DMS 2.5 BACnet gateway and the Schneider EcoStruxure BMS.

The QuickServer was configured to read the Samsung DVM BACnet/IP points from the Samsung gateway and make those points available to Schneider in a BACnet/IP structure the BMS could reliably discover and monitor. This avoided the virtual-device discovery limitation and allowed Schneider to access the indoor and outdoor unit data without modifying either the Samsung gateway or the Schneider system.



Chipkin's approach included:

- Confirming that the Samsung gateway and downstream BACnet points were visible using CASBACnet Explorer.
- Using Wireshark analysis to identify the unicast I-Am discovery behavior causing the Schneider visibility issue.
- Building and testing the FieldServer QuickServer configuration, then supporting the client through commissioning and final closeout.

The final configuration allowed the Schneider BMS to monitor the Samsung DVM HVAC system through the FieldServer QuickServer Gateway, without requiring changes to the Samsung gateway or Schneider controller.

Results & Customer Advantages

The integration was successfully completed, and the client confirmed that all pending indoor units were commissioned and closed out.

Key benefits included:

- Full visibility of Samsung DVM indoor and outdoor units within Schneider EcoStruxure.
- Centralized monitoring and control of the HVAC system from the Schneider BMS.
- Reliable BACnet/IP communication without modifying the Samsung gateway or Schneider system.
- A scalable solution for large HVAC point counts and third-party BACnet interoperability issues.

This project demonstrates that BACnet/IP support alone does not always guarantee interoperability between systems from different manufacturers. By using a FieldServer QuickServer Gateway, Chipkin made the Samsung HVAC data available to Schneider in a BACnet/IP format the BMS could reliably discover and monitor.

Customer Testimonial

The client confirmed the successful completion of the project and provided the following feedback:

“Thank you very much for your excellent support throughout the course of this project. I am particularly grateful for your assistance and cooperation, which contributed significantly to the successful completion of the works.

We are pleased to confirm that all pending indoor units on this project have now been completed and closed out. I look forward to the opportunity of working with you again in the near future.”

— David Adeloje, Managing Partner, Fronthill Limited