

Resolute helps CPS use data & visibility to strive for best-in-class facility performance

Challenge

Chicago Public Schools (CPS) is the third largest school district in the nation with nearly 650 schools serving more than 350,000 students and approximately 40,000 teachers and staff. With such a vast and widely dispersed network of schools, CPS was seeking centralized visibility into the performance of the HVAC systems within these facilities with the ability to use actual, real-time data and repeatable and scalable processes to optimize equipment performance across the portfolio to best ensure that every school offered its students and staff a safe, healthy, and productive learning environment.

The primary challenge for the facilities team at CPS was how to connect hundreds of heterogeneous schools into a centralized ecosystem, effectively collect and analyze performance data from a multitude of HVAC systems and equipment of varying condition, age, and manufacturer, and then use this data to proactively and consistently improve and optimize facility performance across the network. The secondary challenge was equally as daunting—how to get all this done quickly and cost-effectively. Was it even possible?

Solution

The answer to this fundamental question was an unequivocal “yes.” For starters, a majority of the schools within the CPS portfolio were already leveraging the Tridium Niagara Framework® as the core of their building-automation and -control infrastructures. Consequently, thanks to Niagara’s open-source protocol and structured data-tagging scheme, the ability to connect these buildings into a single, centrally managed ecosystem while accessing standardized data sets was already available.

With ubiquitous connectivity and data access in place, the next question was how to remotely and cost-effectively collect this data and rapidly configure it for reliable analytical processing? For that, CPS turned to Tridium partner Resolute Building Intelligence and its patented, analytics-powered building integration and performance software, which promised a direct connection from Niagara to the Resolute solution without the need for intermediary devices, lowering costs, minimizing integration complexity, and accelerating time-to-value. To validate Resolute’s claims of direct connectivity and rapid integration, CPS initiated a pilot project that included 43 schools (JACES) rolling up to a centralized Niagara Supervisor.



Results

In a matter of minutes, CPS was able to remotely install Resolute's Niagara connector to its centralized Supervisor and, within the hour, begin seeing actual building data flowing into the Resolute Cloud™, exposing 100,000 available points across the entirety of the Supervisor footprint. Using its patented, automated building configuration tool—Resolute Synergy™—a member of the Resolute team was then able to configure all 43 buildings (70,000 of the 100,000 points available) in less than two business days. The remaining 30,000 points, which were not deemed valuable in meeting CPS' objectives, were quickly removed within the software to eliminate any potential confusion about which points were being tracked and utilized.

Once this initial configuration was concluded, a complete set of pre-defined, ASHRAE-based rules (11,000+) were automatically generated and rapidly applied across all 70,000 points to deliver immediate analytics-driven performance insights. These insights were then automatically fed into approximately 150 building- and equipment-level reports that not only pinpointed and prioritized equipment problems but also identified the likely root cause of each issue.

With the solution proven out, the Resolute team has turned its attention to ensuring that all members of the CPS facilities team are proficient in the software and can properly utilize this new wealth of real-time data and analytics-driven answers to optimize the performance of the entire CPS portfolio while making their very difficult jobs a lot easier and productive.

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Solving real-world, everyday building problems with real-time, actionable answers.