



SkySpark® as a Commissioning Tool

Case Study
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SkySpark as a Commissioning Tool

Buildings are complex. No two are exactly alike and virtually every new building is a one of a kind creation. Even when considerable effort is applied to commission equipment systems for optimum performance important issues can be missed and systems can degrade over time.

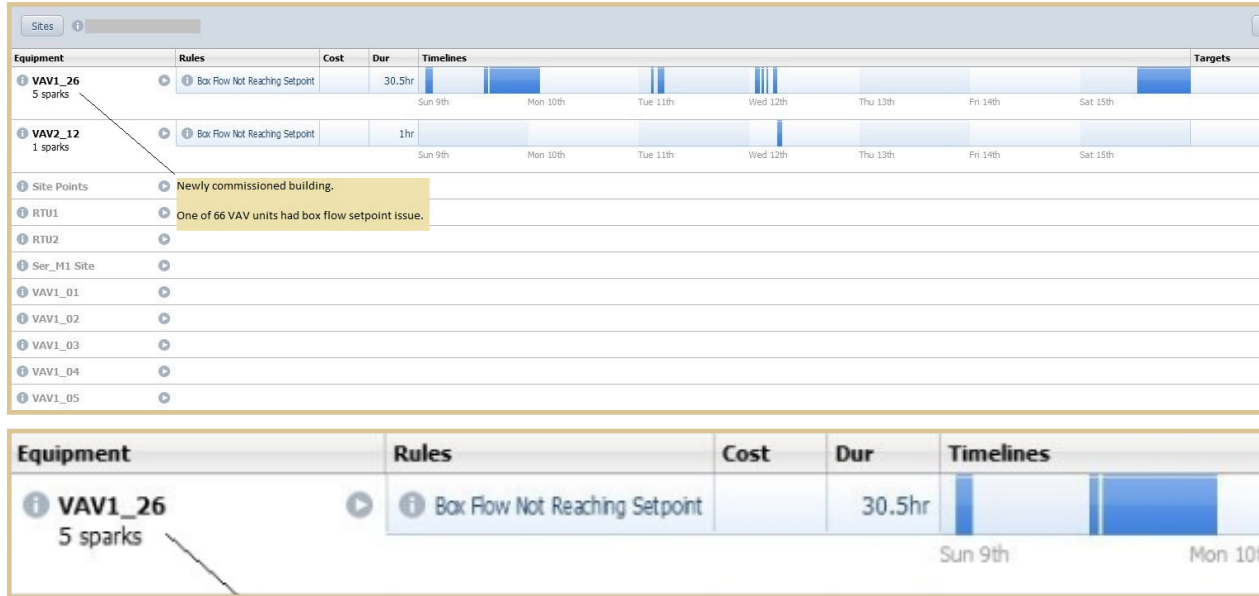
One of the great benefits of SkySpark analytics is that it looks at all of the data all of the time, continuously evaluating rules to detect patterns that represent deviations from optimal performance. This makes it an ideal tool to support the initial commissioning process and to provide automated, ongoing commissioning. This Case Study presents a real-world example demonstrating the value of SkySpark in commissioning.

Location: Building type - Class A suburban office building, Southeastern US

Customer Issue Description: “We have had several new buildings come online recently. We have made a concerted effort to bring these buildings into SkySpark quickly and use SkySpark as a tool to support the commissioning process. The following examples show the value SkySpark adds to the commissioning process. These examples were run within the first couple of weeks after the contractor was finished with manual commissioning of the building. SkySpark identified issues with VAV box operation that had been missed in that commissioning process. It just goes to show that even when you are focused on assessing equipment operation and have allocated resources, there are just too many pieces of equipment and too many data points to manually review and verify.”

The Issues Identified by SkySpark

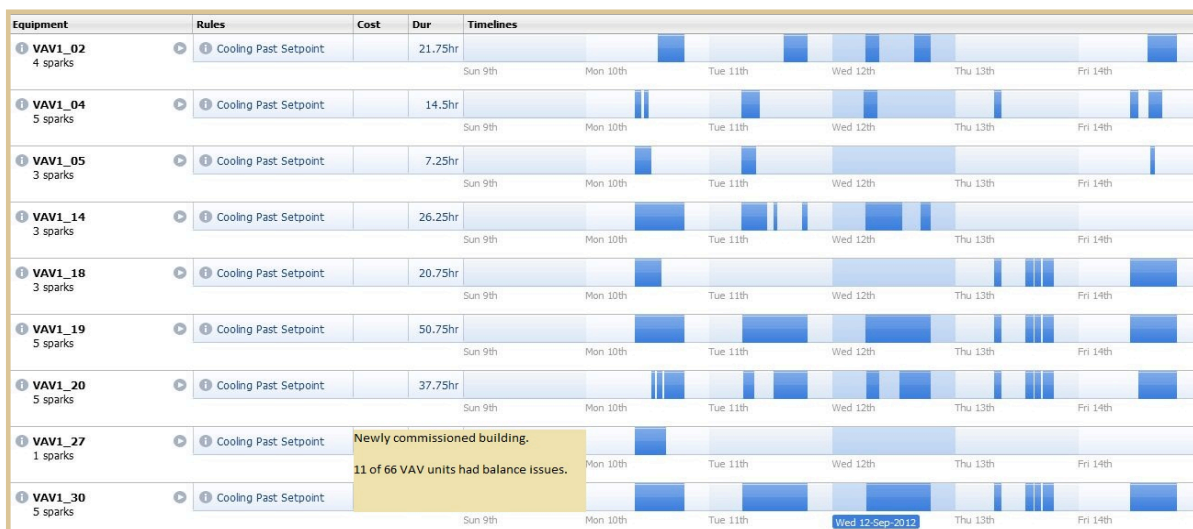
VAV Box Airflow Not Reaching Setpoint. The Spark View shows the issues including description, frequency, duration and the relationship of the Spark to specific equipment.



Zoom in provides full details of the Spark

In this case, a SkySpark rule identifies VAV boxes that are unable to reach the airflow setpoint being called for to satisfy the space comfort conditions. One of the key goals of the commissioning process is to ensure that all VAV boxes are able to meet airflow setpoints.

Another issue that SkySpark Identified was overcooling caused by VAV boxes delivering too much airflow to the space, which is a symptom of incorrect balancing. Given that fan horsepower varies with the cube of the airflow (“the fan law”), this can result in significant energy waste in addition to comfort problems.



Identifying Things That Matter™ to Streamline Repairs and Corrections

Re-commissioning can be an even bigger challenge than initial commissioning because of limited budget and resources to look at balancing and operational issues across the building when there is a change of use. In another recent example, a change-of-use in a building threw the systems out of balance. Numerous tenant complaints were received. SkySpark was used to identify issues enabling the maintenance technician and contractor to minimize the time and expense needed to research and resolve the issues.



The above SkySpark view shows 8 significant operational issues that were detected, from setpoint issues and broken temperature sensors to buildings systems starting too early. This information enabled the organization to focus efforts on the “things that matter”.

Rules
After Hours Zone Temp Unchanged
Bad Temperature Sensor
Building Starting Early
Cooling Past Setpoint
Setback Missing
Setback Too Small
Setback Wrong Direction
Setpoint Too Close

All buildings – old and new – have operational issues. The challenge is to find them in order to eliminate the waste, cost and comfort impacts they cause.

SkySpark analytics software automatically analyzes building, energy and equipment data to identify issues, faults and opportunities for energy and operational savings. SkySpark helps building owners “find what matters” in the vast amount of data produced by today’s smart systems.

SkySpark® – Analytics for a World of Smart Device Data

The past decade has seen dramatic advances in automation systems and smart devices. From IP connected systems using a variety of standard protocols, to support for web services and xml data schemas, it is now possible to get the data produced by the wide range of devices found in today's buildings and equipment systems.

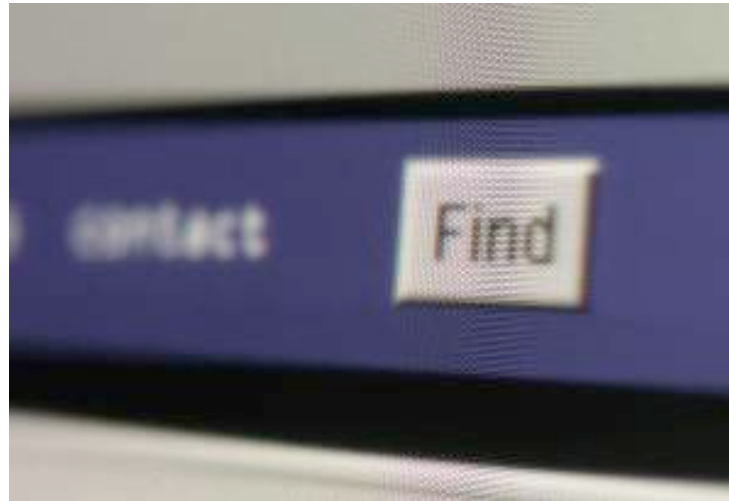
Access to this data opens up new opportunities for the creation of value-added services to help businesses reduce energy consumption and cost and to identify opportunities to enhance operations through improved control, and replacement or repair of capital equipment. Access to the data is just the first step in that journey, however. The new challenge is how to manage and derive value from the exploding amount of data available from these smart and connected devices. SkyFoundry SkySpark directly addresses this challenge.

About SkyFoundry

SkyFoundry's mission is to provide software solutions for the "Internet of Things". Areas of focus include:

- Building automation and facility management
- Energy management, utility data analytics
- Remote device and equipment monitoring
- Asset management

SkyFoundry's software helps customers derive value from their investments in smart systems. Learn more and request a demonstration at www.skyfoundry.com.



The new frontier is to efficiently manage and analyze data to find what matters™.

SkyFoundry

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