MONITORING DOWNTIME OF ELEVATORS, ESCALATORS AND WALKWAYS

LOCATION

Canadian Airport

KAIZEN BENEFITS

Flexible Reporting delivers both high-level summaries and detailed insights

Customizable Logic allows analysis of non-HVAC equipment operation

WHAT IS KAIZEN?

Kaizen is a powerful ongoing commissioning and analytics tool that works in conjunction with your Building Automation System (BAS) and metering systems. Kaizen continuously monitors your building’s performance and energy consumption, measuring it against optimal performance guidelines and its own baseline, alerting you if a fault is detected or if performance is sub-optimal.

OVERVIEW

A Canadian Airport set out with the goal to prioritize maintenance operations and gauge the performance of the sub-contractors. Out of service elevators or escalators can be a large inconvenience for travelers. The airport authority needed a way to track and quantify the downtime of elevators, people movers (walkways) and escalators. Although they were getting BAS notifications when equipment went into alarm, they had no way to monitor which equipment was out of commission the longest, or the reason for the downtime.

THE SOLUTION

The equipment was added in stages from different manufacturers, which meant not all equipment had the same alarm conditions and states of operation. Kaizen’s flexible logic builder allowed custom rules to be developed to capture the alarm states and operation states available to each piece of equipment. Additionally, rules were created to calculate number of hours in an "off-normal" state, so that comparison between systems became meaningful.
FINAL RESULTS

Three levels of reporting were set up to monitor equipment performance. The KPI Executive Reports show us performance distribution by equipment type, and the average KPI score over time. The KPI Digest Reports provide the uptime score for each individual piece of equipment. At a glance, we understand which systems need attention.

Finally, State Analysis Reports were created for each individual piece of equipment, showing the percentage breakdown of time spent in each mode of operation. From these reports we can tell if the equipment was down due to an alarm condition, or for planned maintenance.

Three levels of reporting means our clients can drill down to obtain the details required for the task at hand.

CONCLUSION

Kaizen can be used for non-HVAC applications. Its flexible logic builder and reporting functionalities means that analysis can be done on any system producing a time-value pair.

Fig. 1: Track performance by equipment type. KPI Scores reflect percentage of time the systems are in normal operation

Fig. 2: State Analysis Report gives operational breakdown by hours per week