



The Shift in IT Spending

Benefits of an As-A-Service Model for Battery Asset Management

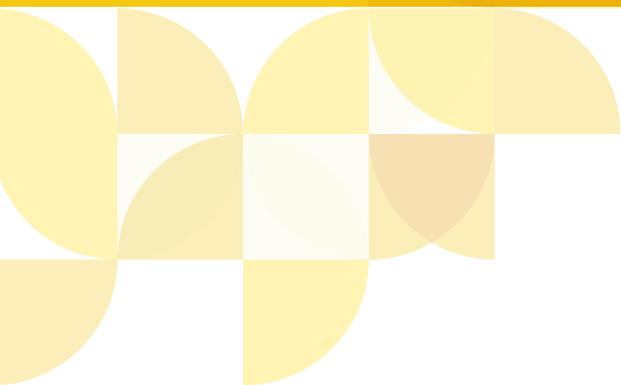


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INTRODUCTION

Since the data center first emerged in the early '60s, monitoring and managing backup-power systems has involved substantial upfront capital, planned and unplanned maintenance expenses, costly personnel training and time-consuming reporting. Of course, tremendous growth and advances in technology mean the data center today looks remarkably different than it did 50 years ago.

Today, the proliferation of Internet of Things (IoT) devices and cloud technology have changed the data center environment dramatically. For example, facility managers are deploying IoT devices to monitor the health performance of their equipment. Despite these innovations, however, the challenges to effectively and efficiently manage back-up power systems remain. Now, more than ever, data centers are expected to maintain 100 percent availability despite increased demands on IT infrastructure.

In today's fast-paced environment, IT leaders endure constant pressure to identify cost reductions, deliver results and introduce challenging infrastructure initiatives. Yet, they are traditionally bogged down with general management tasks and must assign a significant portion of their resources to routine maintenance. In response, data center managers are strategically outsourcing certain operational functions to optimize financial resources.

According to a recent Gartner report, the most evident of these optimization efforts are shifts in spending from assets to services. In fact, the analyst firm projects IT equipment spending to decline 0.5 percent in 2016 and IT services spending to increase 2.1 percent from 2015. In addition, major corporations such as EMC, IBM and Intel have reported disappointing quarterly results as companies shift their spending to new technologies that reduce operating costs.

As pressures for cost optimization escalate, business leaders will increasingly turn to "as-a-service" models to remove upfront capital investments and relinquish mundane IT management activities in order to focus on business priorities and strategic initiatives.

The Risks & Costs of Battery Failure

As the volume of data generated in a facility increases so does the cost to maintain the data center. Unfortunately, the cost of unplanned downtime has increased dramatically as well. According to a 2016 study by Ponemon Institute, the average cost of a data center outage reached \$740,357 in 2015 - an increase of 38 percent since 2010. The same study found that UPS system failure continues to be the number one cause of unplanned outages. Further, data center surveys have shown between 65 to 85 percent of unplanned downtime can be attributed to battery failure of some kind. In other words, many of these outages are completely avoidable with proper battery monitoring and management.

The modern data center, with its state-of-the-art technologies, can lose nearly three quarters of a million dollars if the battery system fails. This seemingly simple piece of equipment can cost \$9,000 per minute of downtime and cripple a mission critical facility's backup system with a single bad cell. Still, many facility managers replace their batteries every three to four years without a second thought - risking a costly power outage if their batteries fail before their scheduled replacements, or missing the opportunity to improve ROI if the battery life can be extended. Although equipment reliability is improving every year, data center managers are facing increasing pressures to keep costs down while

still maintaining constant uptime. As a result, equipment – such as battery strings - must be replaced before they fail in order to meet 100 percent availability.

Without real insight into performance, facility managers are likely replacing the expensive equipment earlier than necessary for fear of failure. Or, due to the significant costs of replacement, facility managers may also be extending their batteries past warranty and risking outages in order to keep capital costs down. The reality is, the life cycles of batteries vary greatly, and a data center simply cannot afford to depend on blind, mass replacements nor continue a reactive approach to asset management.

New Technology = More Pressure on Facility Operators

According to practical futurist Michael Rogers, data center uptime will be the top priority in the 2020s as a result of increasing pressures for available data and the proliferation of Internet of Things (IoT) devices. Even back in 2014, Gartner predicted the technology to transform the data center industry, recognizing that IoT deployments will generate large quantities of data that need to be processed and analyzed in real time.

With the rise of the IoT, some organizations are incorporating smart technologies into their data centers to track real-time status of components and environmental measurements to keep operations flowing smoothly. While a significant upfront hardware cost, these monitoring systems can signal when a battery reaches a certain temperature, ohmic value or voltage and is at risk of failure.

Unfortunately, however, alarms are often ignored and there's a continued lack of focus on data collected, as operators are under increased pressure to conduct daily management tasks while still developing growth strategies. However, overlooking the status of these batteries not only places the data center at risk, but also prevents an operator from realizing full value of their battery investment.

In order to gain value from their monitoring systems, facility managers must have trained personnel to manage the collection, reporting and interpretation of the data. These same individuals are also responsible for integrating changes to various operational processes and policies impacted by these insights. These tasks are often delegated to facilities staff with responsibility of maintaining all mechanical and electrical infrastructure. While the insights available in a monitoring system could predict an outage, the "jack of all trades" engineer typically doesn't have training or time to analyze the data – or they simply don't have the manpower to analyze all the data collected from all the equipment. Even locally monitored battery systems produce thousands of points of data every day, but the data itself does not provide analysis, and monitors alone do not have the capability to generate any actionable insight.

The Shift Towards Outsourcing Asset Management

While continuous monitoring of batteries can help ensure protection, it requires a large capital investment and adds even more equipment to maintain. In addition, staff must be trained to interpret data generated by the monitors. As a result, facility managers are increasingly turning to outsourcing these responsibilities. Not only does this align expertise with responsibilities, but frees data center resources to focus on core infrastructure, operations and future strategy.

A battery management service removes the upfront capital required to purchase a monitoring system while providing a dedicated specialist. These specialists are trained to review battery performance

data within the context of trends and historical data thus revealing insights to predict issues before they occur. This 'predict and prevent' method not only reduces risk of outages, but it extends battery life by preventing premature removal of the assets before true end of life. By understanding equipment circumstances at a much more detailed level, as well as leveraging recorded and measured experience, facilities are increasingly able to support uptime objectives. This added insight into the health of their systems also reduces overall cost of maintenance.

As data center technologies continue to advance and transform the industry, businesses must adapt accordingly or risk being left behind. Facility managers will continue to shift toward "as a service" platforms – from cybersecurity to asset management – as they seek to optimize costs and performance while fulfilling massive enhancements for 2016 and beyond.

The First All-Inclusive Predictive Monitoring Service for Batteries

Leveraging Canara's more than 20 years of critical power expertise, as well as the largest historical database of predictive analytics, Canara Insight+ for Batteries is the first-ever all-inclusive predictive monitoring service for data centers. Eliminating all upfront equipment capital, the subscription-based model bundles monitoring hardware, hardware replacement, and Canara's predictive monitoring service to provide a complete solution. As a result, facility managers are empowered to focus on business priorities with peace of mind instead of the headaches of reviewing and analyzing performance data – knowing Canara's expert power analysts are interpreting their data, predicting failures and providing condition-based corrective actions.

Facility managers that embrace this model can simplify their operations and realize cost savings of up to 40 percent versus traditional monitoring. In addition, Canara's predictive and monitoring analytics as a service also provides convenient visibility into current performance, extends battery life, alerts for potential of thermal runaway situations and reduces maintenance costs. In other words, Canara Insight+ for Batteries provides and manages every aspect of battery asset management.

Unlike the traditional risk and react approach, Canara's 'predict and prevent' method uses predictive analytics to uncover a better understanding of battery assets and provides more accurate, preventative actions to increase reliability and maximize asset productivity. In addition, it enables facility managers to accurately forecast expenses and reduce preventative maintenance visits from two/four times a year to one annual inspection.

Canara's as-a-service model will fundamentally change the business of battery asset management and help facility managers navigate the procurement, install, commissioning and replacement of their critical power infrastructure. For more information on Canara Insight+ for Batteries, visit www.canara.com or call us at (415) 462-8950.



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