Nominee: Romonet Ltd

Nomination title: Smart analytics to increase data centers' energy efficiency

Smart analytics to increase data centers' energy efficiency

The Team Behind the Project

Romonet is the only cloud based solution that provides true data center lifecycle analytics for data center owners, operators and investors.

It's also the only solution to combine patented predictive modeling with machine learning algorithms that assess, validate and clean information from thousands of data points prior to analysis.

Used by the world's leading colocation, cloud and enterprise companies to independently analyze, predict and validate financial accuracy, operational performance and environmental impact, Romonet has global experience in analyzing hundreds of data centers.

Romonet's platform delivers a host of benefits.

Companies can validate site design performance and equipment specifications against actual performance by comparing cleaned metered data to identify issues and energy inefficiencies as well as environmental impact. This provides unrivalled insight and information on how to run a more profitable and efficient data center, from initial design through to end of life.

Challenge

One major challenge facing the data center industry is data quality.

Although a large facility requires significant investment and can consume massive amounts of energy, many data centers are still managed using very poor quality data even from automated metering systems. Even though data center failure can potentially bring a business to its knees and any mistakes can significantly affect a company's bottom line, many facilities are still managing and making decisions trying to analyse this poor-quality data by using error prone and labor intensive spreadsheets.

Despite an increasing number of organizations now using Data Center Infrastructure Management tools and systems, these only reveal half of the story and even that is highly variable and dependant on data quality. Very few of these systems do any sort of data cleansing and validation.

Unfortunately, high quality raw data is very rare, especially when sourced from traditional building and energy management metering and sensors.

Based on the hundreds of systems we collect data from, on average, only 60-65% of the raw data is usable and of sufficient quality for analytics.

If data is of a poor quality and cannot be validated and labeled accurately, no amount of analysis will be able to provide reliable, actionable results.

Romonet's solution automatically validates the collected data using a predictive model, ensuring that decisions are based on accurate analysis results and made with maximum confidence.

Results

In 2016-2017 Romonet enabled its clients to save over £3m on utility costs, reduce energy usage by 48,000 Mwh and decrease CO2 emissions by over 11,550 tons.

These results were possible because Romonet's solution:

• Reduced initial capital investment by accurately analyzing and predicting the most suitable data center design for their needs.

• Decreased operating expenses by continually analyzing metered data against predictive models.

- Eliminated unnecessary ongoing capital projects and chose the optimal, most cost-effective and efficient equipment to meet current and future workload requirements.

- Measured and compared site design and equipment specifications to actual metered data to identify energy and water inefficiencies.

- Calibrated and reported sustainability metrics including Power Usage Effectiveness (PUE) and carbon emissions.

- Highlighted potential future risks to availability or service levels.

One of Romonet's most successful energy efficiency deployments was for Fujitsu UK and Ireland. The company had started its own Energy Efficiency Program more than five years ago. It was quick to deliver positive results but Fujitsu realized that by closely monitoring energy usage, optimizing legacy technologies and investing in smarter analysis tools the company could reach critical targets significantly faster.

Simon Levey, Head of Data Centre Development, UK & Ireland at Fujitsu, and his team had three objectives:

- Improve energy efficiency

- Maximize available capacity

- Deliver measurable business outcomes

As Simon Levey explained: "Energy efficiency has been a major strategic objective for a long time, however we realized that delivering further improvements would require a more analytical approach to performance management – in other words, which areas within a facility need changing, why, and what the effects of our choices would be."

Romonet's platform was deployed in just ten days and Fujitsu saw a return on its investment after two months.

By deploying Romonet's solution Fujitsu was able to:

- Identify savings of over 9% of the site's energy per year. By easily accessing granular data, intelligent suggestions and the predictive elements provided by Romonet, Fujitsu was able to significantly improve energy efficiency in a very short period of time.

• Prevent potential energy inefficiencies. With Romonet's regular reports, observations and recommendations to hand, Fujitsu's operations and engineering teams quickly understood where energy inefficiencies were and how to fix them quickly. Potential points of failure, or areas in which they should keep a close eye on, were also highlighted in regular reports.

• Enhance the decision making process. By utilizing Romonet's patented predictive analytics platform, Fujitsu was able to forecast performance prior to deploying a significant number of forward-thinking projects aimed at improving energy efficiency and performance optimization throughout their data centers.

"Now we know exactly what technology to buy, how to deliver greater efficiency from existing infrastructure and quantify our return on investment. […] With Romonet we know with certainty that our results and reports are accurate. We can plan our next project with confidence," added Levey.

With two UK data centers operating efficiently, Fujitsu is now looking to use Romonet for other sites across the UK and Europe and is planning several other capital projects that will drive more energy efficiency within the whole organization.

Romonet is the only platform specifically designed for increasing data center energy efficiency and to help stakeholders accurately measure and predict future costs, ROI from capital investments, environmental impact and precise equipment lifecycle performance.

Furthermore, Romonet's water analytics, launched in 2016, is a world first for the industry. The platform provides the ability to precisely predict water consumption in conjunction with energy and cost at the design and operational stages of the data center lifecycle.

Additionally, in 2017 Romonet launched its free Site Analysis Tool aimed at helping businesses and data center managers to save significant resources and time when analyzing and comparing the impact of location and design on the performance of their data centers.

The tool enables users to compare the energy, PUE (Power Usage Effectiveness), energy-cost and CO_2 performance of each design across many different climates in Europe and North America.

Why nominee should win

Independently selected as one of IDC's top three innovative companies under $100 million in the data centre facility industry, Romonet is constantly innovating to improve how data centers can increase their performance and efficiency.

Romonet is the only platform specifically designed for increasing data center energy efficiency and to help stakeholders accurately measure and predict future costs, ROI from capital investments, environmental impact and precise equipment lifecycle performance.

It's a unique solution to combine patented predictive modeling with machine learning algorithms that assess, validate and clean information from thousands of data points prior to analysis.

Data is a critical part of decision-making and Romonet's platform provides the required data and insight to measure performance, reduce operating costs and improve energy efficiency.