Reducing Costs of Electrical Power & Operational Workload

Best known in the U.S. for its video games, TOKAI Communications is a telecommunications company in Japan providing DSL services and network solutions. "Smart Facility Manager", their flagship solution, provides a cloud-based method for power saving and work efficiency in server room management. Collecting environmental data with IoT technology and visualizing it with Sightline EDM™, TOKAI successfully deployed intelligent air conditioning control with a 30% reduction in electric power.
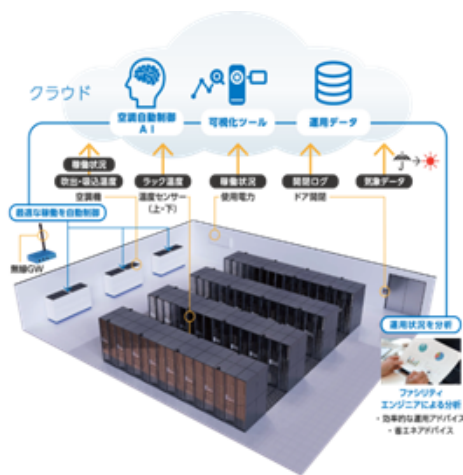
Challenge

TOKAI Communications provides corporate customers with their own optical fiber network, data center facilities, system integration, and cloud-based services. As with any data center in today's market, the company's electrical expenses are a growing challenge when it comes to attaining healthy business growth and profitability.

TOKAI wanted to be able to collect data around their entire data center in an effort to make better, more data-driven decisions when it came to deploying computer resources rather than deploying workloads on systems with availability. This would help them evaluate temperature in order to deploy to coolest areas which would improve HVAC efficiency in their computing center.

Solution

With temperature sensors installed throughout their air conditioner outlets, TOKAI's facility management system captures detailed temperature distribution in the internal space of a data center. Leveraging OPC UA (Open Platform Communication Unified Architecture) Sightline EDM collects detailed temperature readings

BENEFITS

Collected & monitored data from thousands of sensors across OPC UA servers

Optimized temperature control with no human intervention

Achieved 30% electric power reduction

Alleviated manpower for facility engineering by significantly streamlining temperature control

Graphically visualized temperature distribution by user-friendly heat map

Easily shared skills and knowhow for temperature control all parties concerned

⊘SIGHTLINE

TESTIMONIAL

"One of the distinct advantages of Sightline EDM™ is its ability to automatically identify data interrelations and extract and correlate any combination of data points. We chose Sightline not only for that but because its UI was friendly enough for our data center staff to use without extensive data science experience. The overall cost for performance is simply far superior from what other solutions provided."

Mr. Toshiharu Sato Head of Planning
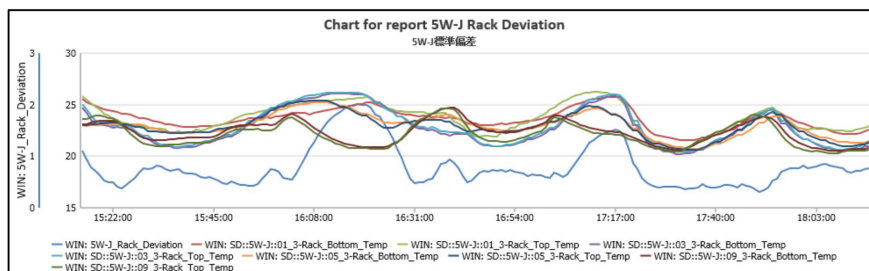IoT Solutions Promotion Division of TOKAI Communications

throughout the data center as well as thousands of metrics related to opening and shutting of the doors and all the facility equipment.

Sightline EDM™ calculates and graphically visualizes relationships between data sets. The data is then analyzed by the automatic air conditioning AI engine and the result is fed back to the air conditioning controllers for the most appropriate temperature setting. The AI program is based on a machine learning method was internally developed by TOKAI using Python.

Results

TOKAI Communications successfully optimized data center temperature controls and significantly reduced cost of electric power by a demonstrated 30%. This savings wouldn't have been possible without Sightline EDM™. The homegrown temperature control AI programs composing the core system continues to be customized to meet customers' needs.

This AI-based temperature control function has both streamlined data center operations and improved facility engineers' productivity at TOKAI. The visualization capability of Sightline EDM™ made it possible to easily identify heating and over-cooling spots helping facility engineers take data-driven actions. It also enabled them to share the skills and know-how for temperature control among all stakeholders. Utilizing Sightline EDM™, TOKAI Communication's "Smart Facility Manager", cloud-based facility management solution is now deployed by other data center providers and cable-TV operators.

Chart for report 5W-J Rack Deviation
5W-J標準偏差

SIGHTLINE SYSTEMS

Sightline Systems offers real-time performance monitoring, big data analytics, and visualization focused on root cause analysis, anomaly detection, capacity planning, and forecasting for critical IT systems — including almost all operating systems, mainframes, network, storage, applications, and databases — as well as manufacturing systems, including all major programmable logic controllers (PLC). Sightline reports a 95% renewal rate from customers around the world, including many Fortune 500 and Global 2000 companies in automotive, packaging, electronics, chemical, pharmaceutical, utility, airlines, finance, and telecommunications, as well as federal, state, and local governments.

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