The Pay-for-Use Data Center

An Interview with Jakob Carnemark, Chief Executive Officer, Aligned Energy

Jakob Carnemark

EDITORS' NOTE *Jakob Carnemark has held his current post since April 2013. Prior to this, he was Senior Vice President, Mission Critical for Skanska. He graduated from the University of Virginia with a B.S. in Engineering.*

COMPANY BRIEF *Aligned Energy (aligned energy.com) has engineered a technology platform that enables its clients to do more while using less energy. Comprised of Inertech, Energy Metrics, Karbon Engineering, and Aligned Data Centers, the company is currently focused on helping data centers reduce energy consumption and give enterprise and service providers more control over how they deploy power and cooling.*

What opportunity did you see in the market for this business?

I have spent the majority of my career building data centers – the fastest-growing users of water, energy, and infrastructure budgets. There is no other reason to build a data center other than to support IT load, but it became clear to me that companies have difficulty predicting their actual IT loads. As a result, today's data centers are woefully underutilized.

According to an August 2014 report, "Data Center Efficiency Assessment" produced by the Natural Resources Defense Council (NRDC), U.S. data centers consumed an estimated 91 billion kilowatt-hours of electricity – equivalent to the annual output of 34 large (500-megawatt) coal-fired power plants and enough electricity to power all the households in New York City twice over. The report goes on to say that "the largest issues for energy savings include the underutilization of data center equipment."

The way we deliver data centers needs to evolve. Just as the "cloud" has made it possible to access all the compute and storage one needs, on-demand and only paying for what one uses, we believe we should be able to do the same with the data center.

So over the past three years, we have assembled a team of data center engineering and operations veterans who have had the opportunity to work with some of the largest and most innovative organizations to address their highly complex power and cooling challenges. We have seen the inner workings of the data center from a variety of vantage points – from engineering to building to operating. These perspectives have shaped our belief that there is a better way to deploy and consume power, cooling, and space in the data center. A way that uses less but delivers more; that is on-demand and just-in-time; that gives companies control over their data centers, effectively liberating them from the constraints of forecasting how much you will need.

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How is the company structured under its four areas of focus?

Energy Metrics is a progressive software firm that synchronizes financial and supply chain data to deliver real-time, predictive intelligence for energy infrastructure.. The company started out as a controls firm that built its core competency in software and infrastructure visualization. Today, they manage about eight million data points per second for customers, including a large web services company and a large international bank.

Inertech is a leading-edge technology company named one of the "Top 10 Most Innovative Companies of 2015 in Energy" by *Fast Company*. The company removes complexity from electrical and mechanical systems enabling just-in-time data center infrastructure.

Inertech was created to improve and disrupt an industry where there had been very little innovation before. Data centers are currently being powered and cooled by technology that was developed in the 1920s. Inertech has developed and patented the first full-scale heat removal cycle for data centers. Through this system, our clients have been able to reduce the water needed in the cooling process by almost 85 percent.

Karbon Engineering is an engineering consulting firm with comprehensive expertise in data center design and commissioning. The company eliminates excess from the data center with a closed-loop design approach.

Finally, Aligned Data Centers helps enterprises and service providers gain control of their data center with a pay-for-use model, guaranteed 1.15 PUE, independent space option, and lean approach to deploying power and cooling infrastructure. Unlike traditional colocation providers who lock their customers into paying for power they may not use, we enable our clients to control how much power and space they need so that they only pay for what they use. This affords our customers significant long-term flexibility, efficiency, and cost savings.

How much of your sales effort is an education process?

For most companies today, data center costs are like a black hole. They can't see into the black hole and money keeps getting pulled in. We encourage our customers to look at the data center like they would any other business unit. Like every other business unit that is driven to do more with less, we believe the data center should be held to the same standard. It is hard for companies to forecast what their IT loads will be over the next few years, let alone the next 10 or 15 years, which is the average contract term for large, wholesale colocation requirements. We want to give our customers the control they need to align their data center to the needs of their business. With our model, they don't have to make large, long-term commitments upfront. They can pay as they go. This helps them better control cost, reduce waste, and be better overall corporate citizens – important goals for any business. Our challenge is to educate the market that there is a better way. No longer do companies need to pay for things they don't use. They can pay for their data center the same way they do with the cloud. We are excited to bring our way to the market and look forward to the impact we will have on data center energy consumption. ●