Solving for the Fast and the Furious

Why Aligned Energy's Build-to-Scale Solutions Satisfy the Need for Speed-to-Market and Dynamic Capacity Demands

CASE STUDY

The need to deploy new services and products quickly and efficiently is driving changes in how hyperscalers, cloud, SaaS, platform providers, and enterprises plan for their capacity needs. Faced with the challenge of predicting capacity demand increases in line with their future projections, these organizations typically overprovision, thus increasing capital and operational expenditures. Aligned Energy provides adaptable, efficient data centers composed of build-to-scale infrastructure to support varying IT densities and changing customer demands to eliminate overprovisioning.

BACKGROUND

Demand in North America and across the globe for compute, networking and storage capacity is surging at an unprecedentedly fast and furious rate. Aside from the increasing amount of data, which Cisco projects is growing 40 percent per year, companies are facing the challenge of building or obtaining data center capacity quickly enough to support their immediate information technology (IT) infrastructure needs. Any delay in obtaining adequate data center space can slow, if not completely obstruct, a company's revenue-generating initiatives. Moreover, in attempting to keep pace with business growth or expand into new markets, companies often find it difficult to accurately predict their future capacity and location requirements.

CHALLENGES

Hyperscalers, cloud, SaaS, platform providers, and even enterprises with high density computing requirements often overprovision in order to mitigate the risk of lacking the IT capacity needed to facilitate business growth. However, overprovisioning increases capital and operational expenses, and has a significant negative impact on companies' bottom lines.

Another challenge these organizations face is that compute loads are becoming more dynamic as capacity demand varies from project-to-project, month-to-month, or even day-to-day. For example, eCommerce traffic surges during the holidays and compute loads can spike up and down as DevOps tests new products and services. Meanwhile, a hot new release by a video gaming studio can suddenly bring 100 million new users online virtually overnight. In short, the business models that global connectivity has enabled have fundamentally changed the needs for building out IT infrastructure and future-proofing capacity requirements.

In these scenarios, flexibility and scalability are business-critical when expanding or upgrading existing infrastructure. However, there are other pressures as well, including mitigating financial risk and ensuring on-time project delivery. Additionally, spurred by environmental mandates, this new breed of highly sophisticated data center consumers with high-density demands are all seeking to reduce the energy, water and space needed to operate their physical data center environments.

SOLUTION

Aligned Energy provides adaptable, efficient data centers composed of build-to-scale infrastructure to support various IT densities to meet customer demand. This build-to-scale deployment allows Aligned Energy to deliver scalable data center solutions efficiently and as needed, eliminating over-provisioning. Additionally, our infrastructure optimization platform offers clear visibility into both current state as well as predictive analysis to alert customers of future capacity requirements.

Aligned Energy's build-to-scale infrastructure also leverages award-winning cooling technology that delivers exceptional efficiency – Delta Cube (Delta³). With the ability to integrate patented infrastructure technology into existing facilities or into the design of a new data center, Aligned Energy offers hyperscalers, cloud, SaaS, platform providers as well as enterprises a competitive advantage by improving efficiency at any load, in any geographical location.

This dynamic technology supports high, mixed and variable power densities to enable customers to evolve without reconfiguring infrastructure or stranding capacity. It offers efficient and elastic deployment with the ability to scale vertically or horizontally, supporting 1-50kW per rack within the same footprint.

Additionally, Aligned Energy employs an advanced supply chain methodology to data center builds, providing standardization across both the mechanical and electrical inventory. A standardized and optimized inventory is the number one risk mitigator in delivering infrastructure on time, along with the use of prefabricated components to further accelerate project timelines and reduce cost.

RESULTS

Aligned Energy's future-proof design delivers the adaptability to scale on demand and in place with fluctuating capacity requirements , even during high-traffic points. Leveraging our standard delivery model, we can provision initial deployments of 2 to 20+ MWs of capacity, and scale beyond in as little as 12 weeks. When capacity can be delivered incrementally and on demand, then future-proofing doesn't require overprovisioning. New data center builds can be delivered in as few as six months.

Aligned Energy's scalable deployments offer digitally visible and optimizable assets, while achieving a Power Usage Effectiveness (PUE) of 1.15. Ultimately lowering customers' Total Cost of Ownership (TCO), we can deliver this industry-leading efficiency regardless of load levels or local climate conditions. Our award-winning cooling technology utilizes up to 85 percent less water and 80 percent less energy. While reducing resource usage and mitigating environmental impact, this also lower customers' TCO.

At Aligned Energy, we designed our data center power and cooling systems to enable customers to add capacity at scale, while improving sustainability. Our pre-commissioned, prefabricated components offer effortless and rapid expansion of capacity, allowing for significant capital savings and speed-to-market installation. Delivering reliability and redundancy supported by a 2N design with back-up built in, Aligned Energy provides 100 percent uptime SLA in Tier III certified data centers.

Macquarie Infrastructure Partners

Aligned Energy received a strategic investment from Macquarie Infrastructure Partners, an investment fund managed by Macquarie Infrastructure and Real Assets (MIRA). MIRA is a division of Macquarie Asset Management, the asset management arm of Macquarie Group, a diversified financial group providing clients with asset management, banking, advisory and risk and capital solutions across debt, equity and commodities. As of its most recent reporting date (March 31, 2018), MIRA had assets under management of ~$US119 billion invested in ~148 portfolio businesses, ~300 properties and ~4.5 million hectares of farmland, including ~5GW of renewable power generation projects.

Macquarie is one of the founding members of the Climate Finance Leadership Initiative (CFLI), convening six influential financial sector leaders to help facilitate the private financing objectives included in the landmark Paris Agreement. Macquarie CEO Shemara Wikramanayake is also a founding commissioner of the UN's Global Commission on Adaptation. In April 2017 a Macquarie-led consortium invested in the Green Investment Bank creating one of Europe's largest teams of green energy investment specialists.

ABOUT ALIGNED ENERGY

To learn more about Aligned Energy and its build-to-scale solutions, visit www.alignedenergy.com or email sales@alignedenergy.com