![GIGA DATA CENTERS logo — UNLIMITED POWER, EFFICIENTLY DELIVERED]
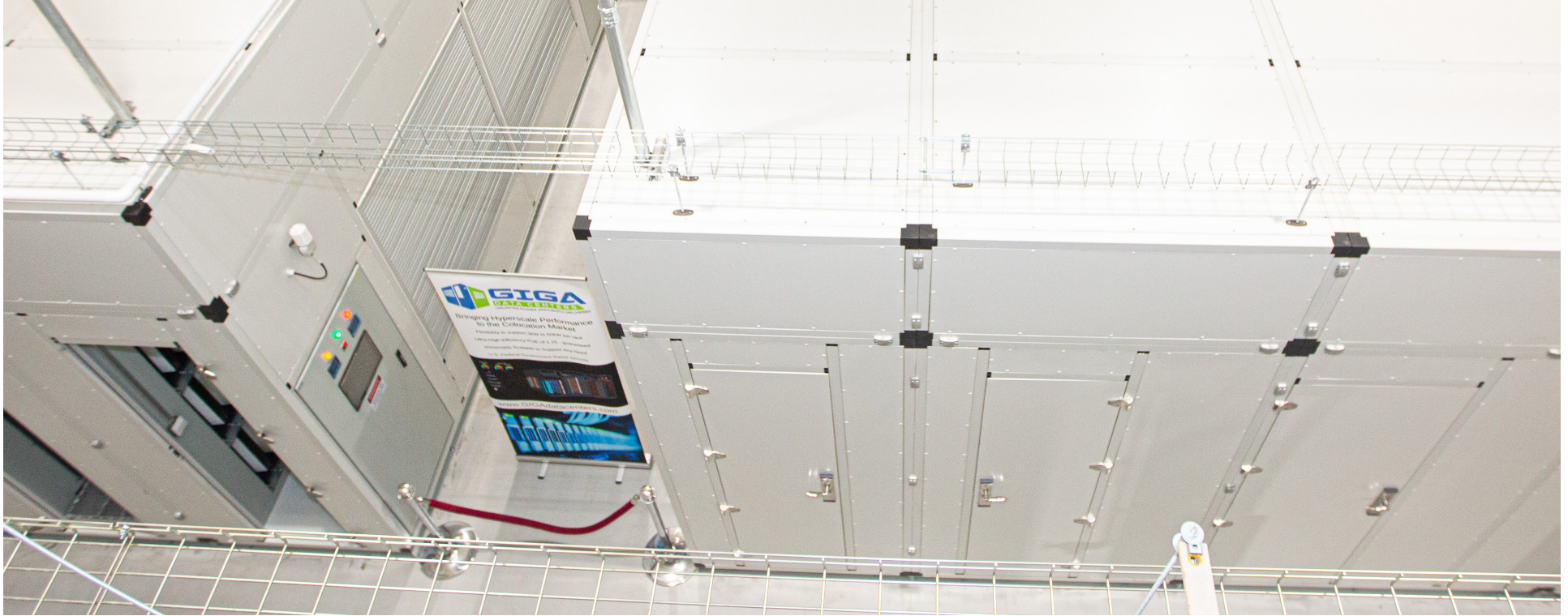
GIGA DATA CENTERS

Revolutionizing the colocation market with hyperscale data center technology.

Hyperscale data center operators have moved on from raised-floor facilities to a more efficient modular approach—yet smaller colocation facilities are still lagging behind. GIGA Data Centers aims to transform the colocation market with a state-of-the-art data center infrastructure built to support Lenovo ThinkAgile platforms.

Lenovo

intel XEON PLATINUM inside™

GIGA was founded in 2017 by a team of data center professionals, designers and engineers who recognized a mismatch between the modern approach of hyperscale cloud hosting companies such as Amazon, Microsoft and Google, and the current best practices among colocation facilities and managed service providers (MSPs).

Jake Ring, GIGA's President & CEO, explains: "Traditionally, companies sized their data centers based on long-term forecasts of how much space, capacity and power they would need. They would build large, raised-floor facilities with integrated power and cooling systems, and gradually fill them up with racks of servers.

"In today's world, that approach is doomed to fail. We now have high-performance computing and artificial intelligence workloads and hyperconverged infrastructures that demand much greater power density from each rack. Retrofitting a raised-floor facility with the extra power and cooling required is extremely expensive. And scaling is also a big problem: you have to build for your maximum capacity, so it's very difficult to start small or to flex your infrastructure to align with fluctuating demand."

GIGA takes a very different approach, building its data centers around small, modular enclosures that can be installed in any location. With modern and efficient power and cooling technologies built in, these enclosures offer a guaranteed Power Usage Effectiveness (PUE) ratio of 1.15—a conservative 35% reduction in electricity usage, much better than leading competitors in the colocation market where the average is 1.70. Moreover, when more power or greater capacity is needed, GIGA can simply add another enclosure and get it online within just two weeks.

"We estimate that at our new flagship data center, we can add a megawatt of power in 90 to 120 days," says Jake Ring. "Each of our racks can support power densities of between 5 and 50 kilowatts, so they can handle any kind of load, even the most power-hungry multi-GPU boxes. Compared to a typical colocation facility, we can scale at 50% less cost and offer our clients 35% lower electricity bills."

To manage its new data centers effectively, GIGA needs to provide infrastructure monitoring and security capabilities. Moreover, the company aims to provide infrastructure as a service (IaaS) offerings for MSPs that need a variety of private cloud and desktop-as-a-service products for local businesses, but don't want to own the hardware—which means it needs a powerful server landscape of its own.

"When we looked at server vendors, Lenovo really stood out," says Rick Sanford, Chief Cloud Architect at GIGA. "Their sales and support teams really believed in what we were trying to do. Unlike their competitors, Lenovo didn't just want to sell us hardware—they offered a real partnership to help us get to market. As a new player in the industry, getting that backing from a major vendor like Lenovo is a huge boost and validates our approach."

Lenovo also offered a much more compelling proposition for GIGA's internal IT platform. The GIGA team was keen to adopt Nutanix software and build a hyperconverged infrastructure, but the cost of buying servers directly from Nutanix was high. Lenovo offered its ThinkAgile HX Series servers, which bundles Nutanix hyperconverged software, at a lower price and with significantly better specifications. Equipped with next-generation Intel® Xeon® Scalable processors, the HX servers deliver the high level of performance required to support IaaS, Application-as-a-Service and Disaster Recovery-as-a-Service offerings for the GIGA Data Centers MSP Marketplace.

For solutions that wouldn't benefit from the premium features of Nutanix, such as GIGA's planned IaaS offering, the company plans to use Lenovo ThinkAgile VX Series servers, using VMware vSAN and VMware Horizon to build out the virtual desktop infrastructure. There is also potential to use the ThinkAgile servers as the platform for a Pivot3 video surveillance solution, when GIGA's data center infrastructure grows to a point where it has enough cameras to justify the investment. To manage these servers, the team plans to use Lenovo XClarity Administrator, which will make maintenance and firmware upgrades easier.

Finally, GIGA plans to build its private cloud environment for MSP clients on Lenovo ThinkAgile CP Series servers, which will provide the automation required to build a massively scalable private cloud hosting platform that can manage both single-tenant and multi-tenanted environments from a single point of control. Just one of GIGA's 52U racks could easily support the network blocks and 12 each of the 2U compute and storage blocks with a total 30kW potential load to support tens of thousands of virtual machines in multiple separate zones dedicated to each MSP client.

The initial deal for the HX Series servers was facilitated by 10x Consulting Group, a Lenovo partner. Rick Sanford comments: "The 10x team does a great job handling the sales operations, and we're strong advocates of a partner-led sales model like Lenovo's. When you're focusing on disruptive technologies, you need to be able to move fast, and having a good partner adds an extra level of responsiveness that can make all the difference."

The implementation of the HX Series servers went smoothly, thanks to the GIGA team's extensive previous experience of implementing Nutanix-based server landscapes.

"The installation was straightforward, and all the infrastructure was up and running in time for the grand opening of our new data center," says Jake Ring. "We didn't need any help from Lenovo's services team for the HX setup, although they did give us some advice on configuring our network switches which was very useful. As we begin to grow, we're also very interested in Lenovo's TruScale service, which will help us scale up our infrastructure at the flick of a switch."

He concludes: "We're just at the start of GIGA's journey to transform the colocation industry, and it's great to have an ally like Lenovo actively promoting us and helping us get our IaaS offering to market with local MSPs. We know that our modular architecture is the future of colocation, and we're confident that Lenovo is the right partner to help us harness that strong foundation to build compelling products and services."

> "Lenovo didn't just want to sell us hardware—they offered a real partnership to help us get to market. As a new player in the industry, getting that backing from a major vendor like Lenovo is a huge boost and validates our approach."
>
> – Rick Sanford, Chief Cloud Architect, GIGA Data Centers