



Mission Critical Data Center Provider Partnered with Chatsworth Products to Build a Customized Hyperscale Containment Solution

This case study showcases the collaborative effort between a Mission Critical Data Center Provider and Chatsworth Products to produce a customized containment product, highlighting the importance of customer-focused design and execution.

Business Challenge

A Mission Critical Data Center Provider partnered with Chatsworth Products (CPI) to develop a hyperscale containment floor and ceiling-supported solution. The project's scope was to design and manufacture a completely customized containment product built for hot aisle containment (HAC) or cold aisle containment (CAC) for the company's new data center. The hyperscale customer initially engaged with CPI after learning of their Build-to-Spec (BTS) solution and hired CPI to collaborate on a design that would meet their specific needs.

Embarking on a project of considerable scale and complexity, CPI faced multifaceted challenges to deliver the customer's order. The project, valued at over five million dollars, had to be initiated within a tight deadline of 12 weeks for the first delivery, followed by a four-month period to complete the project, which included around 1,000 cabinet units. Despite CPI's prior design efforts, unexpected hurdles emerged, emphasizing the need for robust project management and communication strategies.



Understanding Design Requirements

CPI initiated the project by conducting extensive research and discussions to understand the specific needs of the Mission Critical Data Center Provider's new data center, focusing on scalability, cooling efficiency, and energy management. The design was based on units, each with the capacity to hold ten cabinets.

The containment floor and ceiling-support solution was designed as free-standing with the ability to integrate a power busway, cable management wire basket trays, and easy access to all installed components. The cabinets were to be vendor agnostic and were required to tie quickly into the structure containment solution due to safety reasons. The customer required use of the "rack and roll" method of populating their cabinet positions, meaning that racks were pre-loaded with wiring, servers, and switches before shipment, that could be quickly deployed. Lastly, the Mission Critical Data Center Provider required that the design be like other manufacturers for the purpose of maintaining consistency throughout the data center.

The engineering team at CPI created initial drafts of the ideal solution, which underwent multiple revisions. The re-engineering process was driven by customer feedback, ensuring the final design was tailored to the customer's requirements. A prototype of the containment solution was built to provide a tangible representation of the product, allowing for hands-on evaluation and further refinement.

CPI Custom Containment Solution



Please note, due to customer confidentiality, we are unable to show photos of the final solution build out. CPI is a trusted partner from inception to installation and will not reveal the end design for confidentiality purposes.

Pricing, Production & Purchase Orders

The CPI engineering team worked side by side with manufacturing to build a prototype. This was in a time when supply chains were an issue. CPI met the deadline for the prototype (despite supply chain issues related to the COVID-19 Pandemic) and shipped it to the Mission Critical Data Center Provider's office, where it was set up for customer review.

Over a six-month period, the customer made numerous changes to the prototype with CPI answering the call with great engineering, manufacturing, and delivery each time. After multiple iterations, the build outs were approved by the customer for production.

CPI provided a detailed pricing structure, balancing cost-effectiveness with the high quality required for the customer's data center components. After finalizing the design and agreeing on pricing, CPI began producing the custom solution. The Mission Critical Data Center Provider placed purchase orders through CPI's streamlined ordering system, designed to handle custom specifications efficiently. CPI's robust capacity and forecast planning program exceeded the needs of the Mission Critical Data Center Provider.



Value-Added Installation Process

The customer's decision to involve a general contractor added a layer of complexity, distancing the direct line of communication and introducing nuances related to contracts and payment terms that required meticulous attention. Moreover, the confluence of supply chain issues threatened to derail the delivery schedule. As the project unfolded, the customer requested substantial changes that necessitated a re-engineering and manufacturing overhaul, without any extension to the delivery deadline.

Adapting to these challenges, the company revamped its communication approach, initiating bi-weekly calls that included CPI's production team. This allowed for real-time updates on manufacturing progress and logistics, fostering transparency and coordinated efforts. The supply chain predicament compelled CPI to re-strategize the logistics, recalibrating delivery schedules and truck allocations, an endeavor that demanded cross-departmental collaboration and significant alterations to their manufacturing flow, inadvertently impacting other customer orders.

CPI's logistics team planned and executed the shipment of the containment floor and ceiling-supported solutions, ensuring they were protected and would arrive in perfect condition. The delivery was meticulously coordinated, involving precise logistics for delivery vehicles and scheduling dates and time windows to receive the components without disrupting the data center operations. As a value-added service, CPI provided detailed installation instructions, ensuring that the customer could install the mounting racks with ease and accuracy.

Outcome

Given the extensive customizations, design revisions, and the hurdles posed by supply chain and logistics disruptions, not to mention the challenges with the on-site installation, the completion of the project was a testament to the company's resilience, adaptability, and the strong partnership between the customer and CPI.

The partnership resulted in a custom-designed data center optimizing the company's data management capabilities. The project was marked by a collaborative process that placed emphasis on client requirements and iterative design improvement.

The successful delivery and installation of the custom containment product demonstrated CPI's commitment to quality and customer service. The meticulous approach from understanding requirements to installation provided a blueprint for future collaborations in building data centers.



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Are you ready to customize and scale your data center? Contact us today!

About Chatsworth Products

At Chatsworth Products (CPI), it is our mission to address today's critical IT infrastructure needs with products and services that protect your ever-growing investment in information and communication technology. We act as your business partner and are uniquely prepared to respond to your specific requirements with global availability and rapid product customization that will give you a competitive advantage. At CPI, our passion works for you. With over two decades of engineering innovative IT physical layer solutions for the Fortune 500 and multinational corporations, CPI can respond to your business requirements with unequalled application expertise, customer service and technical support, as well as a global network of industry-leading distributors. Headquartered in the United States, CPI operates from multiple sites worldwide, including offices in Mexico, Canada, China, the United Arab Emirates and the United Kingdom. CPI's manufacturing facilities are located in the United States, Asia and Europe.

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