

## CPI's Cabinets Prepare Telefônica Vivo for the Future

Telefônica Vivo, the largest integrated telecom in South America, provides services to more than 100 million clients, half of Brazil's population.

Downtime can cost millions. Telefônica Vivo trusted Chatsworth Products (CPI) to provide a solution that not only helps sustain the network, but has made it the most energy-efficient data center in South America.

### The Challenge

Headquartered in  
 São Paulo, Vivo —



as it is popularly known — provides telephone, Internet, cable TV, fiber-optics and cloud services to millions of customers. To support all these systems, the company needed an environment that was not only reliable, but completely energy efficient.

Vivo has seven data centers across the country, but in an effort to consolidate and optimize them, it wanted to build a new facility that would be robust enough to support all of the company's prepay and contract mobile segment for the next 10 years and beyond.

"Our prepay mobile billing system is in real-time, so for every call customers make, we're getting paid. We have more than 70 million clients in this segment alone," explained Silvio Mendonça, Vivo's data center manager. So if the system is down for one hour, the cost of downtime

**“ CPI's solution met many criteria but most importantly, I knew CPI offered complete support during all phases of the project. ”**

**David Otaki, Major Account Manager for Anixter**



Telefônica Vivo planned its state-of-the-art data center to support the evolution of technology for the next 10 years or more.

impacts the business and their customers in a big way. "This was a huge problem that we needed to address."

The company's servers were becoming rapidly dense, and air conditioning costs in a tropical country such as Brazil is very high. Heat distribution, especially in high-density spots, would be a huge challenge to tackle. Vivo needed an innovative architecture that would support its systems for years to come.

Additionally, the company's strict commitment to sustainability and efficiency in all aspects of the operation was to be unchanged.

### Walking the sustainability walk with a future-proof solution

As a trusted distributor of communication and security products in Latin America, Anixter wanted to be the one to provide the best solution for Vivo. David Otaki, Anixter's major account manager, knew CPI had the best products for Vivo.

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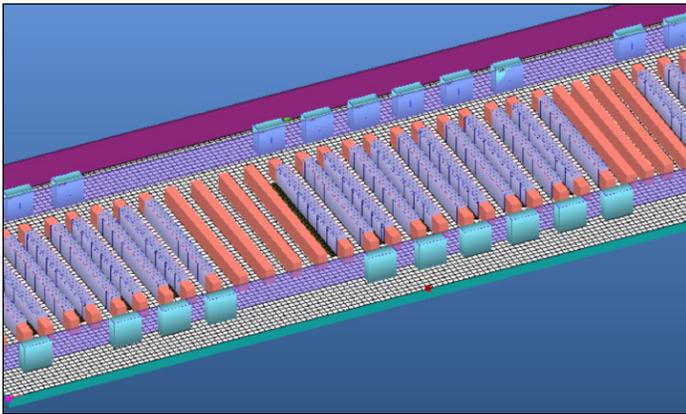


customization of the racks, which were designed to have a 9-foot vertical duct," Otaki explained.

On the day of the introductory meeting with Vivo, Otaki sat in the waiting room. On a table, a big glass bowl filled with Lego pieces held a small flag that read: "Sustainability: Vivo embraces this initiative."

The meeting was scheduled for 30 minutes so when it started, Otaki did not waste any time. "We sell sustainability, and we'd like to show you how Vivo can increase its data center energy efficiency by more than 20 percent."

They talked for one and a half hours.



Other companies weren't able to prove that their cabinets would support 12 kW and be able to hold up to 1,000 kg per rack. CPI's CFD analysis made all the difference.

"We studied a lot of options. Every company offered cabinets with Vertical Exhaust Ducts, but none of them was able to show the CFD analysis that we requested. Except for CPI," Mendonça recalled. "For example, we asked for a product that would support 12 kW and 1,000 kg per rack. They couldn't prove their products would," he said.

Victor Bañuelos, CPI's technical manager for Latin America and an expert in Aisle Containment, provided Vivo with custom computational fluid

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dynamics (CFD) models and calculations to prove savings and return on investment. CPI also provided the company with engineering models in AutoCAD Shapes and building information modeling (BIM) drawings of what the cabinet would look like.

During the selection phase, a competitor had already sent its cabinets for demonstration and testing. The cabinets were 600 mm wide x 1,000 mm deep, 42U high. CPI's sample cabinet was 800 mm wide x 1,200 mm deep, 48U high with a Vertical Exhaust Duct. The decision was easily made. Chatsworth Products was clearly the better solution.

"It was like placing a Camaro next to a Beetle," Otaki said.



Silvio Mendonça, Vivo's data center manager, visits CPI's booth at the Data Center World Conference. "It's good to know that CPI makes a lot more than cabinets."

## The Solution

Vivo initially had plans to use a Hot Aisle Containment (HAC) Solution but in the end, it decided on CPI's GF-Series GlobalFrame® Cabinet System with Vertical Exhaust Ducts, which were custom made to have 9-foot (2.7 meter) ducts to fit the space, as mentioned previously.

CPI's GlobalFrame cabinet supports high-density applications using CPI Passive Cooling® Solutions, which isolate, redirect and recycle hot exhaust air, all while reducing operating costs. The cabinet is available in 30 popular frame sizes.

To date, CPI has provided Vivo with 191 GlobalFrame cabinets with Vertical Exhaust Ducts that are sitting on a 60-inch raised floor. Vivo is also using 97 cabinets for networking and 25 for cabling.



Vivo's data center has today 191 GlobalFrame cabinets with Vertical Exhaust Ducts that helped the company achieve Tier III facility status. (use this for the other image showing the VEDs.)

## The most efficient, innovative data center in Brazil

Located in nearly 362,000 square foot (33,600 square meter) facility and taking up to \$200 million in investments, Telefonica's data center was the country's first to achieve LEED Gold Certification and Tier III status for design and construction.

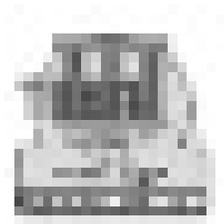
"At first, we were trying to get only LEED Silver Certification, but later we started to think about ways we could use our servers combined with the racks to create a more efficient environment, so we went for the gold. And we were able to prove that we are a huge consumer of energy, but also very efficient," Mendonça explained.

“ The combination of everything we did in the data center, plus increasing the temperature by one degree Celsius to 24 Celsius helped us get this PUE and it gave us points toward the LEED certification process ”

Silvio Mendonça, Data Center Manager for Vivo

Having a Tier III status was also a huge goal.

"Having a Tier II data center means 20 hours of downtime in a year. Tier III is one hour of downtime in a year. And so far, we haven't experienced any downtime," Mendonça said.



Additionally, CPI was able to offer a solution that was backed by an international certification body such as UL. "This is a future-proof solution that can handle more than 1,200 kg of load and capable of supporting 25kW of head from the equipment," Otaki said.

The proof of this stellar performance is in the Power Usage Effectiveness (PUE) reading, which is currently even better than what was previously expected.



As visitors take a closer look at CPI's cabinets, they notice the superior quality right away, according to Mendonça. "They ask, 'Wow! Who made these racks?'"

## “ CPI proved that this rack is THE rack that we needed. ”

Silvio Mendonça, Data Center Manager for Vivo

“We measure our data center today and it’s more efficient than what the CFD said. The PUE on the CFD was 1.7 and in use it’s 1.5, which is very impressive in Brazil’s standards. The combination of everything we did in the data center, plus increasing the temperature by one degree Celsius to 24 Celsius helped us get this PUE and it gave us points toward the LEED certification process,” Mendonça stated.

About the CPI GF-Series GlobalFrame Cabinet System, Mr. Mendonça explained “CPI proved that this rack is THE rack that we needed.”

The facility is divided in two 2,300 square meter (7,546 square foot) data center halls. The second data hall is scheduled to be fully operational in 2015. [G+](#)



“I’m a very critical person. And I believe that our data center was given the best.”

### About Chatsworth Products

Chatsworth Products (CPI) is a global manufacturer providing voice, data and security products and service solutions that optimize, store and secure technology equipment. CPI Products offer innovation, configurability, quality and value with a breadth of integrated system components, covering virtually all physical layer needs. Unequalled customer service and technical support, as well as a global network of industry-leading distributors, assures customers that CPI is dedicated to delivering products and services designed to meet their needs. Headquartered in the US, CPI operates global offices within the US, Mexico, Canada, China, the Middle East and the United Kingdom. CPI’s manufacturing facilities are located in the US, Asia and Europe.

CPI is listed with the General Services Administration (GSA) under Federal Supply Schedule IT 70. Products are also available through GSA Advantage and through Government Wide Acquisition Contracts (GWACs), including GSA Connections and NITAAC-ECS III. ([www.chatsworth.com/gov](http://www.chatsworth.com/gov))