

Power & Tel Reduces Data Center Floor Space by 50% Using Compact, Flexible Vertiv Solutions



A Vertiv Case Study



Background

Founded in 1963, [Power & Tel](#) is an industry leader in the material management and distribution of product solutions to the worldwide communications marketplace. Based near Memphis, Tennessee, the company supplies data center, AC/DC power system, and broadband networking infrastructure components to businesses across the United States, Canada, and Mexico, as well as other countries.

Power & Tel's extensive distribution network gives service providers and contractors an effective way to access the wide range of products needed to build and maintain communication networks. The company acts as a value-add partner and offers efficient solutions for asset visibility, materials management, resource maximization, and facility capacity management.

"Our differentiation point is that we ensure unfailing access to the products and brands that accelerate innovation. In fact, 94% of the manufacturers in our network say Power & Tel is one of their most trusted and reliable distributors in the industry," said Brett Kirby, Product Manager at Power & Tel.

Challenge

Business growth drives need for modernized facilities

In recent years, the company has grown and expanded its distribution services business at a rapid pace. As a result, it became clear to the management team that state-of-the-art facilities were needed to meet the needs of its growing customer base. The team's investment in facility upgrades included a 250,000-square-foot space for a distribution warehouse and offices, in addition to a new corporate data center. The design of the new facilities included features such as LED lighting fixtures, an innovative air filtration system, and the implementation of electric car charging stations that, together, meet modern efficiency, safety, and sustainability standards.



Challenge: Build an innovative data center that would reduce needed floor space while bolstering availability.

Solution:

- Vertiv™ Powerbar iMPB power distribution busway system
- Vertiv™ Liebert® EXM modular UPS units
- Vertiv™ Liebert® CRV in-row cooling units
- Vertiv™ VR racks

Results:

- Design flexibility and space savings of 50%
- Remote management capabilities with full lifecycle technical support

“When it came to the data center, we wanted to make sure the new space consisted of first-class equipment. The data center is the heart and soul of our operation and is one of the key enablers that allows us to respond to our customers’ product and delivery needs,” Kirby said. “In such an environment, system availability is key for us because we’re a sales-driven business. If we can’t process sales, make phone calls, or connect with the internet, then our company is really not in business. We wanted to make sure that our data center design helped mitigate the risk of downtime. Our data center is the nerve center that supports our entire distribution logistics facility.”

Power & Tel deploys a hybrid information processing architecture that includes some applications hosted in the cloud, while others sit locally in the company’s edge data center.

“When designing our new internal data center, we wanted the design to be flexible. We don’t necessarily know what it will look like two to five years from now, or what our requirements will be. We wanted to make sure that we chose equipment that would future-proof our investment,” Kirby said.

During the design planning phases, right-sizing the power and cooling infrastructure was a primary concern. The design team wanted to achieve two goals: higher efficiency of power usage through better thermal management and also a drastic reduction in the physical space required to host the data center.

Power & Tel was moving from an old facility it had used for more than a decade and wanted a new facility it could be proud of. The company planned for a relatively compact space that would meet local code requirements and ensure the safety of its associates.

Solution

Standardized approach simplifies data center operations and increases reliability

In order to achieve the state-of-the-art data center facility that the Power & Tel executive team desired, Kirby turned to a long-term trusted partner and local Vertiv representative, [Joe Powell and Associates](#). For many years, Power & Tel has worked with Vertiv to provide DC power and outside plant solutions to its customers. “We sell a substantial amount of the Vertiv outside plant pedestal enclosures and DC power systems,” Kirby said. “We also use Vertiv products internally to meet our own power and cooling needs.”

As experts in data center power and cooling infrastructure, Joe Powell and Associates provided the local support that Power & Tel was seeking. “We wanted to work with someone local who we trusted, and who we had worked with in the past,” Kirby said. “We don’t have local representation from other suppliers of similar quality products.”

Joe Powell and Associates engineers made a number of power and cooling distribution recommendations based upon the input from Power & Tel stakeholders. The solution proposed included rack-based [Liebert® EXM](#) modular UPS units, [Liebert® CRV](#) in-row cooling units, [Vertiv™ VR](#) racks, and the [Vertiv™ Powerbar iMPB](#) power distribution busway system.

“The solution that was proposed addressed our request for having the data center facility designed with efficiency and flexibility in mind,” Kirby said. “We had taken a foundational design of the facility, and working with Joe Powell and Associates, redesigned our approach to power and cooling. We repositioned some of our IT equipment. We changed the overall cooling concept towards more efficient, close-coupled cooling, and we focused on the most reliable UPS product we could get. We also needed modern busway that was safe, easy to install, and simple to reconfigure.

“There’s a reason we sell Vertiv products. It’s because we believe in Vertiv products. In this case, because of the deep level of trust in the technology and the organization that backs it up, we’re buying what we sell,” he added.



“The new Vertiv design allowed us to cut our data center footprint by 50% without losing any compute and networking capacity.”

**- Brett Kirby, Product Manager
Power & Tel**

Results

Space savings and consistent high performance

Once the Power & Tel staff agreed to the data center design, the Vertiv power and cooling systems were quickly delivered to support two rows of eight racks each with the option of expanding into a third row if necessary.

The new data center has now been running for eight months without any incidents of unplanned downtime and Power & Tel users have enjoyed a number of significant benefits:

- **Flexibility** - The selection of the Vertiv™ Powerbar iMPB power distribution busway system was based on both reliability and flexibility. The Vertiv™ busway allows the Power & Tel data center team to quickly change from one type of electrical output to another. From the same busway hardware, the system provides multiple available voltages.

In this case, the team chose five wire, 208 three-phase voltage, but the same system supports 110-volt power. Because of the modules that are available for the busway, the support staff can get very imaginative with the kinds of outlets they use.

“The flexibility of the Vertiv Powerbar iMPB power distribution busway allows us to easily move IT, power, and cooling equipment around if needed,” Kirby said.

“Over time, our requirements might change. We might want a different voltage, or a different size of breaker, or an alternate kind of outlet. With the Vertiv solution, all of this is quite easy to implement.”

- **Remote management** – The equipment that Power & Tel purchased from Vertiv is capable of being monitored remotely. The intention, in the near future, is to use this capability to free up more time for support staff and to further enhance system performance by remotely monitoring power usage, room temperature, and cooling efficiency.
- **Complete project lifecycle support** – The Vertiv engineering team engaged with the Power & Tel IT team members to help them understand what power and cooling systems were available, and to explain what would be different from their previous data center facility.

By listening to the IT requirements and by adjusting the data center power and cooling solution proposal based on those inputs, team members felt assured that the design of a new data center would meet their evolving needs.

“Even after the initial installation, the local Vertiv engineers from Joe Powell and Associates, came in and made some tuning adjustments to ensure the cooling system was operating at maximum efficiency. Thanks to their efforts, the system has performed beyond what we expected and is rock solid,” Kirby said.

- **Space savings** – When moving from its traditional data center to the new state-of-the-art data center, the Power & Tel IT team migrated from centralized room-based cooling to a far more compact row-based cooling system.

The savings in data center floor space provided the IT staff with more room for offices, parts storage, and systems staging and testing space. “The new Vertiv design allowed us to cut our data center footprint by 50% without losing any compute and networking capacity,” Kirby said.

- **Consistency in look and feel** – Because the Power & Tel team standardized on the Vertiv power, cooling, racks, and busway, the company now has a showcase data center.

“We wanted to have as close to a unified appearance as we could,” Kirby said. “It made sense to focus primarily on Vertiv products so that we experienced a continuity from product to product in terms of both brand look and feel and quality.”

Go online to learn more about how power distribution solutions like the Vertiv™ Powerbar iMPB busway can support your current and future business continuity goals