

Cabinet Power Distribution Solutions for Critical Environments
At Colliers Turley Martin Tucker
By Calvin Nicholson

Increasing power densities combined with enhanced product functionality have created strong demand for cabinet power distribution units (PDUs) within today's data centers. IT and Facilities personnel now know that the type and amount of power delivered to the cabinet can greatly affect their costs, cooling efficiency, redundancy and future expansion plans within their facilities. Additionally, this surge in demand is being fueled by newer PDU features such as secure remote access and re-boot, environmental monitoring, SNMP traps, email alerts, current and kW load information and others. Progressive organizations like Colliers Turley Martin Tucker (CTMT) who are committed to customer service, product quality and uptime, implement switched PDUs to help better service and support their data center customers.

Colliers Turley Martin Tucker (CTMT) www.ctmt.com is a full service commercial real estate firm committed to expansion and market leadership by offering superior and differentiated client value. Their beliefs are based on 4 Cornerstones of Commitment; Client Solutions, Committed Employees, Civic Involvement, and Constant Growth. (See Figure 1) These beliefs are demonstrated on a daily basis with a guarantee of success for their clients, associates, communities and the firm.



Figure 1

CTMT's Critical Facilities team, directed by John Scheer, currently manages prominent data centers in St. Louis, MO, Tempe, AZ, Orlando, FL, Cincinnati, OH, Toronto, CN, and the UK. Critical factors when specifying IT equipment for these facilities includes reliability and functionality, with strong customer support and service. This commitment to client value has led CTMT to search out vendors capable of delivering high quality products that provide unique technical advantages and solutions.

CTMT took over the management of the St. Louis, MO, and Tempe, AZ, data centers after the data centers were already populated with racks and power distribution units. The existing PDUs on the original build out were the product of another popular manufacturer. Since CTMT desired to keep things uniform, the same PDUs were also used for all new installations.

The CTMT staff thoroughly tests each pdu prior to installation in their data centers. Each site is equipped with a custom built test station, and has written and approved testing and configuration procedures for each type of PDU in use. However, this practice was not in place during the initial build-out of these data centers. Due to their internal installation testing CTMT began to notice a high rate of failure in the PDUs that they were receiving. Additionally, after only a couple years of service in the data center environment, PDUs also began failing in the cabinets with numerous and varied types of failures. Just prior to researching other alternatives the failure rate of new and previously installed PDUs had reached 12 percent, which is completely unacceptable in their critical environments, so it was clear that changes had to be made.

The CTMT staff researched new alternatives from seemingly every major PDU manufacturer. They received a number of evaluation units with more than adequate time to test them per their internal procedures. While certain PDUs excelled in some areas, they also fell short in many others. Conversely, Server Technology, Inc. (STI) offered all the options that CTMT thought they would ever need in a PDU. Additionally, STI offered a highly customizable product, and was the obvious choice for the CTMT organization. This extensive research promoted CTMT to switch suppliers and go with PDUs manufactured by Server Technology, Inc. headquartered in Reno, NV www.servertech.com. To date, CTMT has not received a defective STI PDU, and those that have been in service for over 2 years have not had any problems.

During installation and support a laptop computer is used along with the native Hyperterm application to access the Server Technology integral user interface. "ServerTech has done an outstanding job with the pdu software, and it provides more than enough critical information to the user, all through the very simplistic Hyperterm application" explains Data Center Manager, Chris Wanger. A secure web based IP enabled interface is also available allowing both in-band and out of band communications with the PDU. The IP based communication protocols include, HTTP, HTTPS, Telnet and SSH. Other communication tools include; LDAP, LDAPS, TACACS+, DHCP and of course a serial interface.

A couple of years ago the need to have the ability to control individual outlets led CTMT to use Sentry Switched CDU's which come in both the single and dual fed power configurations. This need was developed as in the past there had been problems with IS employees installing and plugging in equipment; completely bypassing the facilities team. Of course in most cases the equipment was plugged in incorrectly, either having single cords plugged into non-static circuits, or dual corded devices plugged into the same source of power. These instances always create extra work because once they are discovered the need to request an outage to make corrections is required. With switched STI PDUs unused outlets are turned off so the facilities personnel must be present during all new installations, allowing direct supervision of the installation including which power sources and outlets are utilized for any new equipment.

Additionally, product availability has always been a big issue for CTMT. Customers will often decide to quickly install new hardware, and their requests must be supported in a timely fashion. With their old PDU supplier the average lead time was 5 weeks, and in several instances orders were delayed 6 - 7 months. Also, orders were routinely lost and not processed, returns were not processed smoothly, and customer service was sub-par. STI PDUs arrive quickly, and CTMT has not had a lead time greater than 7 days. This figure even includes any customization that was requested. With STI's friendly sales and customer service associates, STI and CTMT have been able to build a strong and likely long lasting relationship. Problems, if any, are addressed rapidly from a single point of contact.

One distinct advantage is that STI PDUs can also be ordered with temperature/humidity probes that have generous lead lengths. This feature is priceless for those racks in which heat density is an issue and requires monitoring. The capability to install and monitor two individual probes per PDU ensures that these measurements can be made exactly where they are required providing the highest level of accuracy. Alarm and output information is available via an integral interface, SNMP traps, or email alerts.

Yet another distinct advantage that CTMT is just beginning to research is STI's global monitoring solution; this Enterprise View (EV) gives users the ability to monitor multiple STI PDUs in multiple locations from one central interface. This product also provides real time alarm monitoring, event logs, inventory reports, device trending with maintenance, warranty and asset tracking as well as many other features. This, at a glance, monitoring solution with alarm escalation provides critical information that can be used by both IT and Facilities on a daily basis, especially with EV having the capability to monitor a number of different infrastructures and other common data center equipment along with STI CDUs.

After careful evaluation and testing CTMT was able to select a PDU supplier that shares their drive for the highest quality. Server Technology, Inc. (STI) manufactures a complete line of PDUs for both AC and DC applications along with Fail Safe Transfer Switches, Enterprise Software systems and other solutions for the data center. STI is committed to product quality, unique features and benefits with SMARTER technical support. This commitment to excellence has helped CTMT achieve consistent results for their data center customers.

