Balancing Data Center Capital and Operating Costs

One thing is certain: if there is a way to reduce costs in the mission-critical space, it has likely been a recent trend within our space. Hot aisle/cold aisle, containment, PUE, convergence, busway power distribution, and edge computing are all examples. These trends point to the fact that the final chapter has yet to be written about data center design. That's because there is continuous improvement in the efficiency of these operations – both from an operating and capital cost perspective.

One thing that is interesting about most of these trends is that at the core of each is a revolutionary product or technology that helps support the innovation. When Zonit released the Z-PDS product it was truly ahead of its time. It not only predated the energy efficiency trend but also the now-ubiquitous adoption of busway systems to distribute power to the rack row.

As is the case with many trends, some of the luster around busway has begun to fade. Certainly, it is a good fit for some applications, but one of the downsides of busway is the steep price tag that comes with the initial installation. The promise is lower ongoing operating costs since move, add, and change work can take place at the hands of the operations staff. In many cases, however, the reality is that there is not enough move, add, and change activity over the lifecycle of a particular installation to produce a payback on the initial investment.

The solution to the problem, of course, is to use a product that has both a low initial capital cost and the flexibility and self-maintenance features that make busway attractive. Have I mentioned that the Zonit Z-PDS was ahead of its time?

Here are a few things that allow this product to balance the capital and operating cost equation:

1. *It eliminates the cost of traditional distribution components*: since the Z-PDS is a rack-based distribution system, it eliminates entire portions of the traditional one-line, including RPP's, conduit and busway. In a typical 60A three-phase implementation, it is approximately 50% of the capital cost of a busway system of the same capacity.

2. *It supports phased implementations:* if it were possible to install busway one row or one rack at a time, would you do it? With Z-PDS, you can do just that. This means that you can deliver electrical distribution in a 'just in time' fashion, allowing you to configure to the specifications of each rack build-out.

3. *It means changes can be made by a technician, not an electrician:* in much the same manner as busway, data center staff can keep up with ongoing move, add, and change work without calling in an electrician. Unlike busway, which has run into issues in certain municipalities and union environments, changes made with Z-PDS are not made hot. With a busway, you are removing and inserting electrical connections into a hot busway.

The Z-PDS can also lower cost by eliminating rack power strips and supporting future increases in density. These, however, are topics for another day. For more information about how you can balance the capital and operating cost equation, click here for more information about the revolutionary Z-PDS.