

Consulting Engineer Addresses Data Center Heat and Power Issues

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*Julian Rachman
Principal
DFW Consulting Group*

"We at DFW Consulting are a group of engineers and designers who provide electrical and mechanical engineering solutions to small, medium and large organizations. Since 1979, we've been very involved in bringing critical facilities design and implementation solutions to the Dallas/Fort Worth, Texas area. Our staff is hands-on. We test, design, and work with the latest products and are always pushing the envelope to find the right solution.

"When the APC InfraStruXure™ first came out, we were intrigued by the innovative thinking behind the architecture. The design clearly reflects the needs of today's business environment. Old, large mainframes are out; smaller, more nimble data centers are in. InfraStruXure works very well in the data center realm and is simple to implement.

Server Density an Issue

"IT personnel today are concerned about increased power density, greater reliability, higher availability, easy scalability, and dependable cooling. InfraStruXure addresses all of those issues with one solution. In today's marketplace, we see two main data center business drivers. First is the prolific use of dual power supply servers, blade servers and traditional 1U servers for more processing capability. Second is the ever-increasing dependency of core business processes on IT departments.

"Server proliferation is also the driving force behind the cooling challenge. Imagine 50 blade servers in a single cabinet - that's the heat equivalent of two ovens, a huge amount of electrical energy to cool. InfraStruXure has a very elegant solution for driving cool air into small spaces and getting the hot air back out very quickly. InfraStruXure also moves all of the wiring out from underneath the floor and places it either above the ceiling or through troughs above the rack space itself, allowing for plenty of space for air cooling under the raised floor.

High Availability Plus Low Maintenance Costs

"With InfraStruXure we can provide our clients with flexible, cost-effective solutions. The modularity of the system delivers reliability and high availability. The key to reliability is mean time to repair. With its 'plug and play' battery modules, hot-swappable UPS power modules and built-in diagnostics, problems are identified ahead of time and are solved almost immediately. Any component subject to failure can immediately be pulled and replaced within seconds without compromising the system. This InfraStruXure solution most probably achieves the highest availability in the industry. No system in the marketplace today can even compare.

"The integrated architecture of the InfraStruXure eliminates complex service and repair issues, which are crucial to my clients' satisfaction. Traditionally you have multiple vendors and manufacturers in the same data center. When a problem manifests itself, the client has to figure out whose protocol is at fault and which vendor to call. InfraStruXure's integrated cooling and power system means no finger pointing and, in the case of technical support,



just one service number to call. The integrated design of the system has plenty of flexibility and this allows the client to move servers around and to add capacity without any long delays or hassles.

“Scalability and the ability to ‘pay as you grow’ were key features for one of our first InfraStruXure clients. They had been considering a traditional UPS system sized at 300% of their initial load to allow for anticipated future expansion. We designed an InfraStruXure system specifically for their current load, which significantly reduced their up front costs and provided them with an insurance policy for future expansion. As it turned out, demand did not grow as projected, and they found themselves in the fortunate position of not having wasted extra capital on UPS equipment sitting idle ‘just in case.’

New Approach for a New Marketplace

“Some engineering firms feel InfraStruXure will take business away as clients work directly with APC. We look at it differently. We see InfraStruXure as a major opportunity to grow our business in new ways. With InfraStruXure, less revenue might be generated for the contractor up front on the installation side, but you more than make up for that by selling components that you traditionally wouldn’t have the opportunity to sell.

“We bring value-add to the design process on the engineering side and possess the necessary skill to successfully tie EPO systems into the entire facility. That puts us into a position where we can profitably cost-justify our solution to the client. At the end of the day, with InfraStruXure, we have a more satisfied client and a better solution. In my book, that’s good business.”

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