



## RagingWire Enterprise Solutions

RagingWire Enterprise Solutions provides scalable IT services and solutions specifically engineered for Fortune 1000 customers. Its strategic focus is to deliver selective sourcing alternatives to enterprise customers looking to extend their IT capabilities without abdicating control. RagingWire's portfolio of services and solutions includes everything from data center operations to fully managed application solutions.

## Background

RagingWire Enterprise Solutions was founded in May 2000 to be an enterprise-class Managed Services Provider (eMSP) that could provide and support collocated data center services for Fortune 1000 customers. As a result, RagingWire had to design and build a highly available, secure, and scalable Class "A+" Tier-IV Enterprise Data Center (EDC) to deliver collocation and managed service solutions to enterprise customers.

## Case Summary

**Location:** Sacramento, California

**Emerson Network Power Products/Services:**

- Liebert Deluxe System Chilled Water Precision Cooling Units
- Liebert Series 610 UPS systems
- Liebert Foundation Distribution Cabinets
- Liebert PPC Precision Power Centers
- Liebert SiteScan Monitoring

**Critical Needs:** Build and support a hardened, Class "A+," Tier-IV Enterprise Data Center, from which RagingWire can deliver premier collocation and managed service solutions.

## Results

- Engineered a power and cooling architecture to scale to beyond 200 watts per square foot power density.
- Achieved outstanding performance of dual redundant power and cooling infrastructure in striving to deliver 100 percent uptime and 99.999 percent availability.
- Capitalized on real-time monitoring of 7,400 branch circuits to plan and predict for abnormalities.



## The Situation

In spring of 2000, Boo.com was a “booming” online business instead of a punch line and PlayStation didn’t need a 2 or 3 after it. It was in this environment that RagingWire Enterprise Solutions was launched — a business inspired in part by Wal-Mart’s “big box” business model and targeted to large companies looking to outsource their data center needs.

But within weeks the dot.com bubble began to burst — with Boo.com the first and most spectacular crash — and companies hosting colocated data centers were among the first to suffer the consequences.

“The timing was tough. No one predicted the dot.com bust. After that, no one wanted to talk about colocation of data centers,” says Joe Kava, chief operating officer, RagingWire.

At the time, RagingWire was finishing Phase I of a planned three-phase buildup of its first enterprise data center. That initial facility included 27,000 square feet of raised floor and a design beyond what was standard at the time.

“Back then, data centers were designed to handle 40 or 60 watts per square foot with a raised floor of one or two feet,” Kava says. “We built our data center with a three-foot raised floor and power and cooling infrastructure to support high power densities of 150 to 200 watts per square foot.

“You can’t build a data center the way we have with anything as an afterthought. It has to be engineered for availability, security, and performance for the future from the beginning,” continues Kava. “Unfortunately, the dot.coms crashed...”



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Kava and RagingWire were left with a state-of-the-art data center but few clients were ready to use it. Similar companies folded during the ensuing IT depression, but RagingWire survived and eventually began to thrive. Kava credits RagingWire’s perseverance to a precision focus on operating and fiscal efficiencies, relationships with partners and clients, and engineering a world class IT infrastructure. “There is no substitute for good, sound business practices,” he says.

And so five years after it opened on the eve of the dot.com collapse, RagingWire filled Phase I of its data center.

Phase II was next, and Kava turned to Emerson Network Power's Liebert Representative who had helped him in Phase I — Andy Hoch of Precision Environmental and Power in El Dorado Hills, Calif. According to Kava, their existing relationship and the strong performance of the Liebert products and support staff throughout the Phase I project made the choice to work with Emerson again an easy one. Kava also expects an extraordinary level of involvement from vendors, and has been pleased with that participation from Emerson.

RagingWire was in expansion mode from the start, with a scalable, phase-build design approach. The idea was to constantly take advantage of new technologies and leverage economies of scale, efficiencies, and relationships.

“Our relationship with Emerson is not just customer-vendor. It really is a strategic partnership,” Kava says. “I expect and require that they are active participants. I want their input and expertise, and it doesn't have to be the result of a problem. When we do conceptual design for our next building, Emerson and all of our partners will have a seat at the table — just as they did previously.”

Hoch says RagingWire views Emerson as a partner, and that enables Hoch and the Liebert team to bring considerable expertise to the table. “They expect us to help them,” Hoch says. “And not just as an equipment supplier. They also benefit from our experience, and Joe values that input. I appreciate that.”

That cooperative approach has worked. RagingWire achieved sustained profitability in 2004, and over the last six years the company's compound annual growth



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rate is more than 50 percent — three-to-four-times the industry average. That success provided considerable momentum as Kava, Hoch and the team began construction of Phase II.

## The Solution

Unlike Phase I, the Phase II project took advantage of good timing in the marketplace and a built-in, growing customer base that included well-known manufacturing, Internet, retail, and technology companies. An additional 34,500 square feet of data center space was built at the existing location, as an addition to Phase I, and took just 18 months to fill.

Hoch was part of the team from the beginning and Emerson products dominate the data center infrastructure support system. They include Liebert Series 610 UPS systems, all of the power distribution units (PDUs) and foundation distribution cabinets (60 in all), Liebert precision cooling units on the data center floor, Liebert precision cooling units in the building but not the data center floor, and Liebert SiteScan monitoring. In fact, according to Kava and Hoch, RagingWire represents the single largest deployment of Liebert SiteScan in the world. It is used for all branch circuit monitoring and has been expanded to include all PDUs, foundation distribution cabinets and precision cooling units.

“SiteScan is incredibly important. It gives us the ability in real-time to know exactly what’s happening with any of the 7,400 branch circuits we have installed,” Kava says. “I can see performance at any given time or trend it out over time. We can set our alarms on the high side or the low side and immediately contact a client to find out what piece of equipment is overloaded.

“In the data center space it’s about power,” he continues. “With other data centers, clients usually don’t know what their power consumption is and what it will be over time. With our data center, a client can come in and we can use SiteScan to plan for that. We can show them exactly what their consumption is and will be. SiteScan is a tool we offer that is a differentiator and that allows us to really partner with a client.”

Kava chose SiteScan because the product fit RagingWire’s needs. It was designed to interact with the Liebert equipment that dominates the data center, and the relationship with Emerson made him



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comfortable the product would perform as promised. “It made for a truly seamless integration,” he said.

The large equipment fits the company’s business model — that “big-box” Wal-Mart approach. When finished, RagingWire’s data center will be 220,000 square feet with 110,000 square feet of raised floor — roughly three or four times the size of a typical collocated data center. “We’re building world class enterprise data centers and we’re building them big,” Kava says.

“The idea behind it is pretty simple,” he says. “We’re going after economies of scale. If you buy a 250 kVA UPS system for X-price, it does not cost three times X to buy a 750 kVA UPS system. The larger system is much more cost-effective. We maintain that cost-effective approach by consistently using larger building blocks with modular scalability and phase-build designs.”

With the IT industry seeing unprecedented growth, there is a need for more and more data center space. But that space comes with a price tag — between \$1,500 and \$2,000 per square foot for a facility such as RagingWire. Most organizations struggle to justify that expense when they can outsource it to RagingWire for less and take advantage of the built-in efficiencies of a dedicated enterprise data center. Those efficiencies include staffing technical expertise and, most significantly, energy use.

“Our utility bill is the single largest component of the expenses I do every month, and maximizing energy efficiency is the single largest goal I have,” Kava says. “From the beginning, our data center was designed with energy efficiency in mind. That’s another benefit of our ‘big box’ model. A single large facility is far more energy efficient than three or four smaller ones.

“Our Liebert equipment is a big part of our overall efficiency,” he adds. “Larger systems have larger transformers and larger UPS systems, all of which are far more energy efficient than smaller ones. Because of our size, we can use large systems, such as the Liebert systems, and implement energy efficient programs and monitoring that are not financially viable for smaller data centers.”

### Still Growing

Construction on Phase III is under way, with Hoch and his Emerson team involved in the process. When finished, Phase III will add 47,000 square feet to RagingWire’s data center. The first step is a 10,000 square foot area with a four-foot raised floor and the



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ability to handle more than 200 watts per square foot. It is already sold out entirely.

Phase III eventually will include multiple 1,000 kVA Liebert UPS systems, between 60 and 70 Liebert PDUs and foundation distribution cabinets and Liebert precision cooling units on the data center floor. It is expected to be finished and fully occupied by the first quarter of 2009. The project is on time and on budget — just like the first two phases.

## The Results

RagingWire now operates with a first-class data center facility attracting some of the best-known brands. The reliable and flexible infrastructure support system is delivering 100 percent uptime for leading companies when any downtime could cost millions of dollars per minute.

Along with continuous support and input from Hoch's team, RagingWire has an extended agreement with Liebert Services for monitoring, predictive and preventive maintenance, and service. "The best person to maintain a piece of equipment is the person who built it," Kava says.

The next step is a new RagingWire facility near the current Enterprise Data Center and then another one at a different location. Kava, Hoch and the rest of the planning team is working on it already, with Phase III as the model for future designs.

"Meeting today's goals is not good enough," Kava says. "We constantly strive to deliver availability and performance for our clients. We continually raise the bar and challenge ourselves to be smarter and more efficient, and we expect the same from our partners as well. That's why we value our relationship with Emerson Network Power — they are up to that kind of challenge."

For more information on Liebert technology, visit [www.Liebert.com](http://www.Liebert.com).

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