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Energy cutter gets in fast lane

SynapSense wins \$10 million in funding

By Clint Swett - Bee Staff Writer

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Folsom-based tech startup SynapSense Corp. will announce today that it's received \$10 million in venture funding to pursue the fast-growing market for reducing power consumption at energy-hungry computer data centers.

Founded by former Intel executive Peter Van Deventer and former University of California, Davis, computer science professor Raju Pandey, the company has developed a hardware and software system to monitor heating, cooling and power consumption at large computer data centers.

Zurich-based Emerald Technology Ventures led the second funding round, but initial investors DFJ Frontier, American River Ventures and Nth Power also participated.

"They are totally performing," said Scott Lenet, who runs the West Sacramento office of DFJ Frontier. "They are focused on a great target market and are delivering results for customers."

"We think this is a real growth industry," added Scott MacDonald, a Montreal-based partner in Emerald, which focuses on clean energy companies. "(Data center operators) like Google and Yahoo and IBM and Intel all have a mandate to grow and to save money."

Van Deventer said some companies like Texas Instruments have a wireless sensor division, but he was not aware of any that had a complete hardware and software product for data centers.

Still, as a whole, the wireless sensor industry is forecast to grow an average of 117 percent a year through 2012, according to analysts at West Technology Research Solutions in Mountain View.

Van Deventer declined to say what companies were using SynapSense products or how much revenue is generated.

IBM has installed a SynapSense system in a Maryland data center to evaluate whether to use the technology or include it in products.

"They are small, but they act like a really mature company," said Drew Clark, director of strategy for the IBM unit that seeks out promising startups.

The Synapsense system centers on wireless technology, allowing clients to scatter scores of small devices around a data center to monitor temperature, airflow, humidity and even unclosed doors, Van Deventer said.

The monitors, each about the size of a package of Twinkies and running on two AA batteries, beam the information to a central computer that displays the information to the center operator.

Currently, if the temperature gets too high in some part of the data center, operators just turn up the cold air, without regard to where the heating problem is, Van Deventer said. "Most of the cooling isn't going where it needs to go."

SynapSense's system pinpoints the hot spots, allowing operators to fine-tune their systems, saving up to 30 percent of its cooling costs, he said.

Those costs are substantial.

According to the Environmental Protection Agency, data centers gobbled \$4.5 billion in electricity in 2006. Those 61 billion kilowatt hours accounted for 1.5 percent of all electricity used in the United States. And the amount is expected to double over the next five years.

"A typical data center uses 10 to 100 times more electricity than an office of the same size," said Dale Sartor, who studies building energy efficiency at the Lawrence Berkeley National Laboratory.

Such consumption could lead to a serious energy crunch. According to a study by Gartner Inc., 50 percent of data centers worldwide could run out of electricity and cooling capacity by next year unless they make their operations more efficient.

Yatish Mishra, president of RagingWire Enterprise Solutions, a Sacramento data center operator, said efficiency is essential because electricity is the single biggest expense in his business.

"Lowering our energy costs is paramount," he said.

He said RagingWire has a wired monitoring system, but he recognizes the value of a wireless system like the one developed by SynapSense because it makes it easier to alter when servers are added to the system.

That flexibility also impressed West Technology analyst Kirsten West, who said SynapSense's technology had the potential "to revolutionize the industry."

That's because, unlike offerings by its competitors, it can be easily installed and managed, she said. It also can easily be adapted to other industries, including chip manufacturing, where the sensors could monitor clean rooms and production lines for contaminants that could scuttle chip production.

For its part, SynapSense, which employs about 25 workers, will continue to focus on the data center industry, Van Deventer said.

"We can go into a data center and give them 1 million vital signs (on their system) that they don't have today," he said. "We can save them up to 30 percent in energy costs."

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