

Franchising the Energy Web

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by Jon Udell

IT must play a crucial role in addressing the energy crisis

I'm already so depressed about the sorry state of our planet's energy systems that I'm afraid Al Gore's *An Inconvenient Truth* would just send me over the edge. Oh, I'll probably relent and go see the movie, but in my case the ex-Veep will be preaching to the choir. I don't need to be convinced any more than I already am that we're in for a rough ride. What I need, instead, are hopeful signs that we'll be able to engineer our way out of the mess we're in.

Among the various road maps, one published in 2003 by the Electric Power Research Institute stands out among the crowd, head and shoulders above the White House's own plan. The EPRI report lays out a carefully staged, decades-long strategy that includes modernization of the power grid, decentralized production, real-time price signals in support of demand response capabilities, and — in the long term — use of hydrogen as a complementary energy carrier.

In "The Energy Web," an October 2004 blog essay, I bemoaned the fact that, during the run-up to that year's U.S. presidential election, neither of the political parties were championing any of EPRI's excellent analysis and solid planning. In the end, however, I concluded that neither could contribute much.

Information technology is both the key enabler and a prime beneficiary of the EPRI vision, and information technologists — not politicians — will make the difference. "Maybe," I mused, "a new entrepreneurial partnership between energy and IT is all we really need."

Last Friday, I got a glimpse of what such a partnership might look like. For my weekly podcast, I interviewed Mike Frost, CEO of Site Controls, a 3-year-old Austin, Texas, startup focused on the part of the energy web that can be built out now, for profit, with near-term ROI and a growth path that could eventually produce macro-level network effects.

Site Controls works with retail, restaurant, and convenience-store franchises. Using an Internet-connected server based on Linux and Java at each location, its system monitors and controls CO2 sensors, HVAC fans, and thermostats for two purposes: to lower operating costs and to assure QoS (quality of service). In this context, QoS might mean the permissible temperature range for Petco's fish tanks.

Circumstances, of course, can put pressure on those QoS parameters. In a rolling brownout, it's in everyone's interest to shed load intelligently. Site Controls can do this across its network of customers in an automated way, Frost tells me, because each franchise defines its own business rules for a range of scenarios. Petco can't afford to have a bunch of fish go belly-up, but the people who visit Michaels hobby and craft stores can handle an extra 10 degrees for a while. How much of a problem would that be? Frost argues that it might incur more goodwill than bad, and I agree. Intelligent adaptive behavior of this sort, when clearly motivated by collective social need, could become a competitive advantage.

Connecting millions of residential homes to the energy web will require massive government support. Hooking up the largest industrial plants will, similarly, require massive corporate buy-in. Site Controls charts a middle course, and its approach suggests an unlikely role for the cookie-cutter franchises that make every city and town look just like every other. These networks of businesses just might be the proving ground for the technologies of the energy web.

Jon Udell is lead analyst and blogger in chief at the InfoWorld Test Center.

