

# Remote Energy Management: ComfortChoice from Carrier Corporation

Carrier Corporation is the world's largest manufacturer of heating, air conditioning and refrigeration systems

and equipment, with 46,000 employees worldwide and \$8.4 billion in annual sales. It is a subsidiary of United Technologies Corporation, provider of

a broad range of high-tech products and support services to the aerospace and building systems industries.

## Energy Demand Outpaces Supply

In early 2000, Carrier began developing a solution to address

the growing problem of energy shortages, which costs US business \$29 billion every year. Research had shown that a

mere 10% reduction in peak electricity consumption would eliminate price spikes and help curb blackouts and brownouts. Ultimately, new power plants and upgrades to the transmission and distribution infrastructure are needed to address the problem; however those solutions were, and still are, many years away.

The Carrier solution, ComfortChoice<sup>SM</sup>, was designed to provide control over peak consumption by managing residential and light commercial

demand. The system combines a number of modules, including a programmable thermostat, load-curtailement software for the energy provider, web-based software for the end-user, and a wireless connection to tie it all together. Carrier teamed with Silicon Energy Corp. (now part of Itron) to provide the software, and went in search of a nationwide wireless network that could provide reliable communication between a homeowner's thermostat and a utility company's mainframe.



## The Right Wireless Technology

"We were searching for an affordable 2Way wireless communications option for a low-bandwidth, high volume application. We were target-

ing utilities as our customer, and were competing against existing residential energy management solutions with 1Way communications," said Lauren Kolb, director, product

strategy for Carrier Electronics. "We identified 2Way messaging as the technology that most closely matched our cost requirements."



## SkyTel Telemetry Case Study

"We chose SkyTel over the competitors because of their name recognition and the dedication of their technical and marketing support team.

SkyTel is a key component of the ComfortChoice solution. Homeowners see the Carrier product, and utility providers see the Silicon Energy software. The SkyTel Network provides

the communication that links the systems together."

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## ComfortChoice Provides a Solution Today

Carrier's ComfortChoice solution enables energy providers to manage their residential and light commercial customers' energy demand by adjusting thermostat settings wirelessly. These adjustments, usually made during peak demand periods, reduce the frequency of operation for heating and cooling systems, reducing overall energy consumption.

For Utility companies and energy providers, ComfortChoice can lessen the need for new power plants and infra-

structure upgrades by reducing the amount of energy needed during peak demand. And, because of the benefits to consumers, it can lead to greater acceptance and participation in demand-management programs. Lower production can also mean fewer emissions and pollutants.

Consumers receive a product they can use year-round with ComfortChoice, reducing their overall energy costs by 15 to 25%. By giving consumers wireless control over their ther-

mostat and the flexibility to override energy curtailments, homeowners come home every day to their ideal comfort level.

"Over the years, we have built a strong working relationship with the SkyTel Telemetry team," Kolb said. "We have met talented, responsive technicians, who eagerly help us solve our communication issues. With SkyTel, we see more than a communication service. I think we chose the correct option."



TELEMETRY SERVICES

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