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Business Day

Technology Lets High-End Hotels Anticipate Guests' Whims

By KEN BELSON

When regulars like Dr. Laurence Wiener check into the Mandarin Oriental in Manhattan, they get more than a smile from the concierge and a mint on their pillow. Dr. Wiener's hotel room knows how warm he likes it — 68 degrees. It welcomes him with a personal message on his television set. It even loads his most frequently dialed numbers onto the phone.

And the bellhop did not have to do a thing.

At the Mandarin and other high-end hotels, new computer systems that connect individual rooms to network servers can now keep track of guests' preferences and change the room conditions automatically.

These "smart" systems can learn

whether a frequent guest likes the lights dimmed, the curtains closed or the room toasty warm. They can also personalize the electronics in the room so that John Coltrane, for instance, greets jazz buffs when they enter their rooms. And sensors in refrigerators alert maids when the minibar is running low on soda.

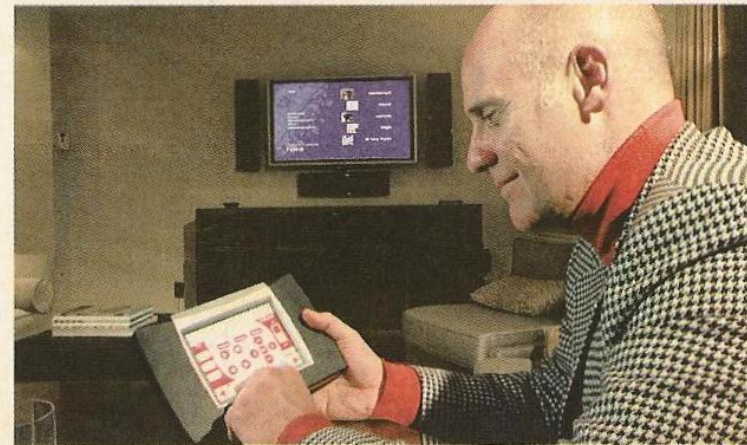
While much of the underlying technology is not new, it is still rare in private homes because the equipment is expensive, especially the controllers that connect all the devices. But by incorporating such technology into their guest rooms, luxury hotels are starting to provide a glimpse of what networked homes may look like over the next decade.

The backbones of these smart rooms are the data networks that hotels are installing to carry phone

calls, video and Internet connections. The networks, for example, make it possible to offer Internet television services that store programs on servers and let guests watch shows on demand (a guest from Chicago could watch a Cubs game in London or Tokyo).

The networks also allow hotels to connect the lights, air-conditioners and other room devices to a central computer so they can be remotely monitored or controlled.

As the price of this technology declines, some homes could start to look like these smart rooms. Already, more than 35 percent of American households have broadband lines, and developers are inte-



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Dr. Laurence Wiener, a frequent guest at the Mandarin Oriental in Manhattan, using the remote controller for all his suite's electronics.

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Networked Hotel Systems

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grating home servers and high-speed cables into high-end new homes.

In time, appliances linked to such home networks could be programmed to adjust to a homeowner's likes and dislikes. Companies like Crestron already sell controllers that automate and centralize control of electronics and appliances.

"In the next 5 to 10 years, smart home networking and remote connectivity will move beyond the niche market and into homes," said Vamsi Sistla, director of broadband and digital home media at ABI Research. "Broadband has created conveniences that consumers didn't have an inkling of a decade ago. Services won't be limited to voice mail. They will match your lifestyle."

To manage all these devices with a hand-held controller or remotely by computer, hotels are installing an assortment of adapters, antennas and sensors in their entertainment consoles, curtains and thermostats.

A guest can turn down an air-conditioner using a remote-control device that communicates with an infrared reader in the machine. But a clerk might just as easily adjust the air-conditioner if it is connected to the hotel's network. A memory chip in the air-conditioner could also remember how a guest adjusts it.

Smart networks rely largely on a user's preferences that hotels learn in various ways. Some guests, for example, are asked to fill out questionnaires before they arrive.

At the Mandarin, which occupies 20 upper floors in the Time Warner Center, housekeepers, bellmen and waiters took note of the preferences of Dr. Wiener, an anesthesiologist from Philadelphia, and managers updated the digital profile that the hotel keeps for each customer. Dr. Wiener has stayed at the Mandarin 45 times in the last two years while he was supervising the construction of his apartment in New York.

The hotel looks at digital trails Dr. Wiener leaves, like the programs he watches and the music he listens to. When he checks in, the concierge calls up his profile on a computer and adjusts the networked devices in his room to fit his preferences.

The networks are also starting to connect hotels within a chain, making it easy for the staff in the Singapore or Seattle branch to see the customer profile of a guest from Spain.

With all this personal information available, some have raised concerns about privacy and data security, and the possibility of hotels selling the information to marketers.

But hotel executives insist that they use this data only to serve their customers better. Many add that the technology, though costly to install, is an important way to attract repeat business.

For years, hotels did not link television sets, air-conditioners and other devices because that would have required stringing cables across rooms to connect them to the central server. New wireless technology, though, is allowing the installation of sensors, antennas and readers that communicate with central databases via wireless "hot spots."

Some hotels install wireless routers and modems that plug into cable or phone outlets. The Mandarin uses "leaky" coaxial cable that radiates

wireless signals without the need for clunky equipment. Other hotels hide antennas in ceilings and other out-of-the-way places.

Dozens of other technologies are making it easier for guests to connect to the Internet or use the technology they bring with them.

Some hotels are exploring the use of U.S.B. ports in desks and other built-ins that allow guests to send pictures from their digital camera to their laptop on the other side of the room without having to connect the two devices with a cable or adapter. And antennas emitting "ultra-wide-band" signals may replace unwieldy bundles of wires that run between stereos, television sets and speakers.

Hotels are installing universal remote controllers so guests can operate a variety of electronics with a single device. The controllers cost



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The Taipan Suite at the Mandarin Oriental is a study in technology.

about \$1,000 each, and Dr. Wiener was so impressed with the one he used at the Mandarin that he bought one for his apartment, which also has technology that allows him to control room temperature, adjust the lighting and operate multimedia equipment. "They really thought about a guest coming up and having this be an extension of your home," he said.

Wireless technology also links hotel employees to the network. Some maids wear wireless tags so the front desk can determine who can get to a room fastest with towels or an extra pillow. Other maids use wireless messaging devices to tell the front desk when a room is ready.

Over the next few years, more hotels are likely to add smart room technology. The number of hotels with broadband connections is also expected to increase more than fourfold by 2009, according to the market research firm In-Stat.

Nick Price, chief technology officer for the Mandarin Oriental Hotel Group, which recently spent \$112 million to upgrade its hotel in Hong Kong, said: "The technology backbone is no longer an afterthought. Technology is up there with the spas, rooms and food and beverage."

Luxury hotels, Mr. Price said, are looking to add high-tech furniture. In the future, guests like Dr. Wiener can expect to see sofas with U.S.B. ports and tables inset with wireless battery chargers so they can insert their cellphones and recharge them without plugging in a cable.