

# Voice-over IP Guest Applications Have Arrived



By Jeremy Rock

Much has been made about the move to convergence within the guestroom. Both in-room entertainment systems as well as the voice-over IP (VoIP) systems have evolved to the point that a multitude of applications can now be accessed from each of these systems.

**I**n addition to high-speed Internet access (HSIA), the VoIP and in-room entertainment systems are now capable of providing guests with greater access to information and services both inside and outside the hotel. While many hotels have contemplated the implementation of these new systems for some time, the decision has been constrained due to the limited number of applications available for use with the systems.

One of the key problems with offering various guest service applications on a VoIP system is that most hotels require the information that is displayed on the phone to be consistent with the hotel's marketing and operational vision. As such the look and feel of each application needs to match that which the hotel is trying to promote on a consistent basis. In order to achieve this the application must not only function in a logical manner but also must be customized for each hotel. In addition, the applications need to be integrated into the various hotel systems, particularly with the PMS, POS and spa.

Until recently the various VoIP manufacturers were largely focused on ensuring that their systems contained the hospitality functionality required to carry out the communication requirements of the system. In this regard, many manufacturers ensured that their systems would have strong hospitality functionality by porting over the functionality contained in their traditional time division multiplexing (TDM) product lines. This became their basis for their VoIP product lines. While the communication functionality of the VoIP system has improved, most of the key hospitality manufacturers have delayed the development of the applications that reside on VoIP due to the complexity involved in developing customized, integrated modules for the hotels.

## What Are the Manufacturers Doing?

Many hotel services are under-utilized. Nortel's Linda Gillespie said, "The real-time nature of some of these applications could have a significant impact on



future revenue streams." As such, Nortel is focused on providing solutions for clients and is aggressively working on possible solutions in this regard.

Bruce Grant, assistant general manager-product management for NEC, further explained that their customers demand a broad array of customized solutions. As a solutions provider, NEC could not possibly design and create applications that meet the needs of all of their customers. In order to provide a best-of-breed solution, they are choosing not to develop these applications at this point in time, but to rather allow third-party providers to address their current needs and requirements.

Mike Poloni, head of hospitality vertical, global for Mitel, said that Mitel is focused on the development of communications applications and that the development of guestroom applications is not Mitel's core competency. Mitel was in the process of developing XML specification documentation that would allow third-party applications to work with their technology. These manufacturers realize that hotels are looking for specific, customized solutions. While the manufacturers may develop some in-room applications, in many cases they are turning to third-party solution providers to address the wide spectrum of possible customized in-room guest applications.

Shaik Kaleem, director of technical marketing in the voice technology group of Cisco Systems, Inc., has been impressed with at least one of the third-party solution providers and especially its seamless IP integration to property management systems and its true end-to-end IP solution.

"The hospitality industry requires specialized communications to meet guest needs," said Marissa Russotto, director of vertical solutions for Avaya. In this respect, "We often turn to our software developer partners who can re-tailor existing applications or quickly create new ones to fulfill a hotel's requirements,

**AND THEY'RE OFF:** The race to maximize the effectiveness of VoIP applications is on.

with seamless integration to the powerful capabilities of Avaya Communication Manager software. It's a good way for Avaya and our partners to focus on our core strengths while speeding delivery of guest-focused communications solutions."

One such third-party company is Nevotek, a European-based software application developer who saw the opportunity to develop a hospitality-focused application that would enhance the operation of a hotel and also the overall guest experience. Focusing its efforts on a new legacy-free programming environment, the initial development has resulted in a partnership with Cisco Systems and utilizes Cisco's VoIP Call Manager solution. Building on the Cisco standards base, Nevotek designed its V/IP Suite™ of applications utilizing the latest open application programming interface (API) standards. Inherent in this design is the ability to easily customize the various standardized application modules which comprise the architecture. In short, Nevotek can provide cus-



Concierge Networks' KioPhone

tomized service profiles for individual customers.

Some of the key advantages of the Nevotek system include the ability to update information dynamically and generate revenue from certain applications. Labor savings from the efficiencies created by updated real-time information can also be obtained. Lastly, revenues are increased as guests purchase more room service and other services.

Since Nevotek is a third-party applica-

tion provider, it has the flexibility to customize applications to meet the specific needs and requirements of a hotel. This is something that would prove to be difficult for most of the leading VoIP solution providers to accomplish based on their current distribution channels.

There are **some obvious disadvantages** associated with deploying a system of this kind:

- 1 Display phones are more expensive than the traditional guestroom phones.
- 2 Infrastructure changes are required to accommodate the new IP-based systems.
- 3 Time and expertise are required to develop customized programming for the various applications.

Nevotek currently has its system installed in hotels in Europe and the Middle East as well as several locations in the United States. Worldwide interest in such systems is rapidly growing. In a marketplace where everyone is seeking to gain the competitive edge, hotels are setting the standard with their customized applications that enhance the guest's overall experience.

## So What about Existing Hotels with Standard Infrastructures?

Many manufacturers can provide modem-like devices which can condition most legacy phone wiring to support the new VoIP Ethernet endpoints. For those existing hotels whose infrastructures cannot be converted, there are other solutions that are in the offering that will provide similar features to that of the IP-based solutions. Both INNCOM international, inc. and Concierge Networks Inc. are offering solutions that are meant to replace multiple devices in the guestroom.

INNCOM is focusing its efforts on its new Guest Room Assistant™ (GDA-700) proprietary device which features a full-color touchscreen display that can adjust the various in-room control devices, display an alarm clock and provide a fully functional digital radio and two-line speakerphone. In addition, the device will allow access to full energy management functionality and provide guest services information and communication.

The initial design of the system was meant to replace various devices such as

alarms clocks, radios, bedside phone and control devices with a single device that could control everything. Due to the limitation of most of the hotel's existing wiring infrastructures, the device has been designed to take advantage of existing analog phone wiring standards. However, with VoIP starting to infiltrate the marketplace, the actual device is slated to be IP-enabled so that it can be upgraded to accommodate an IP-based infrastructure should the opportunity to install the system in this environment become available in the future.

The key features of the system focus around the availability of static vs. dynamic informational requirements. If the information that is going to be accessed via the system does not require real-time updating on a frequent or regular basis, the device itself can be programmed with information which can be accessed and operated by the guest on an as-needed basis. An example of this is a guestroom directory. By loading the information into the device on an individual unit basis, the device is able to display the information to the guest as if it were in an online situation. This traditional environment works well for certain applications such as guestroom directories, local restaurant information, taxis and limo services and energy management and lighting controls.

Other features that require the substantial trans-

## A specialized system can automate the following events at guest check in:

Associate the room number, guest name and service class (for example, VIP, tourist or corporate event) for the purposes of billing and service provisioning

Enable the telephone and voicemail for each guest in the room and initialize the accounting and billing

Compose and initiate an appropriate service menu on the telephone display based on the guest's profile information

Upon check in, display a personalized welcome message for the guest on the telephone screen in the guest's language of choice

Condition voice and textual responses for applications like voicemail to occur in the guest's language of choice

## Key Applications from Interactive VoIP-Based Guestroom Solutions

- 1| **Room service dynamically updated** – The ability for guests to order room service items directly from their phone (and ultimately their television)
- 2| **Easier access to hotel services** – Applications will provide guests greater access to integrated guest services such as: wake-up calls, interactive voice response [IVR] voice messaging, integrated messaging (voicemail, e-mail and faxes), enhanced do not disturb and online programmable auto-dial buttons
- 3| **High-speed Internet access** – Connect via laptop or phone
- 4| **Dynamically updated in-room directories** – The guestroom directories can be accessed directly via the phone display
- 5| **Tailored information using the guest's profile** – Obtained via integration with the hotel's information systems; the information contained in the PMS, POS, spa and golf systems allow the phone to provide customized information
- 6| **Online reservations** – The guest can make restaurant, spa, golf and other reservations via the interactive touchscreen menus
- 7| **New revenue streams** – The system has the capability of generating new revenues for the hotel; these new revenue sources include but are not limited to:
  - Telephone revenues – capitalizing on the versatility and flexibility of an IP-based converged environment
  - Advertising – allowing outside vendors to advertise their goods and services
- 8| **Concierge features** – Ability to push real-time features and information to the guest such as local attractions, airline, car rentals and stock quotes
- 9| **Hotel operational features** – Streamline hotel operations such as guest services, minibar usage, engineering problem resolution, foodservice cart/tray tracking and housekeeping requests
- 10| **In-room systems control** – Provide the guest with the ability to control devices such as room temperature, lighting, drapes, doorbell annunciation and A/V features

fer of information will take dynamic updating and need to be operated under an IP-based solution. These interactive features include things like room service menus, reservations, guest comment cards, minibar usage reporting or local weather forecasts. INNCOM anticipates that its IP-based version of the product will be available in 2005 and that it will offer a solution that can accommodate most requirements.

Concierge Networks (CNI) has evolved its KioPhone product line from its original focus of providing an in-room concierge application to one of providing a full set of in-room applications to accommodate the growing demand of providing guests with information. The KioPhone system is designed around a multifunctional device that is a combination phone and computer. The device is connected to a high-speed Internet connection that drives dynamic content from the Internet and other sources to the in-room terminal. Mark Goodman, president of Concierge Networks, Inc., said that he believes in providing technology that operates behind the scenes. As such, CNI purposely designed the voice communications device to look like a traditional phone so that guests would feel comfortable using it. In addition, the computer contains a large, flat screen and full-sized keyboard so that there is enough space to view a whole Internet page.

While the KioPhone can provide many of the in-room applications that the other systems can provide, the system is guest-centric by nature and is focused on personalizing the information that the guest receives. By updating the guest's name and ZIP code, they are able to provide customized content via the "concierge genie" such as weather and other attractions that may be of interest to the guest. Concierge Networks also has the ability to sell advertising on their system and provides a program whereby the hotel can share in the revenues generated by these programs.

The KioPhone is able to integrate in-room control mechanisms such as lighting and energy management into their solution. Guests can now control these features via the touchscreen terminal.

It is interesting to note that while VoIP is in its relative infancy in the United States, there have been quite a few deployments on the international front. The number of VoIP installations appears to indicate that the technology is here to stay and the race to maximize the effectiveness of the applications is on. Third-party companies such as Nevotek, INNCOM, Concierge Networks and Net6, Inc. appear to be leading the charge with viable hospitality-related, guest-centric solutions.

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