and they must be certain that their system does not interfere with the hotel's and that it is not vulnerable to intrusion by users on the hotel's system.

REQUISITIONING

Large hotel properties with central warehouses should allow requisitions only via electronic media. These requisitions can be generated automatically when on-hand stock falls below par levels or they can, of course, also be prepared manually, such as for a chef's daily order sheet. Paperless transmission has really sped up the approval process, and approval itself is often given faster since supporting documents (e.g., copies of the vendor bids, or photos of the items being ordered) can easily be attached. Consolidation of items from multiple approved requisitions into the various vendor orders is also simpler, and shipping instructions can specify which items are to be delivered bundled together for delivery to a single location.

Again, smaller operations without warehouses do not need this capability. Issues of food and beverage are made either by the kitchen manager or the manager on duty. Security concerns in these establishments are addressed in the old fashioned way, by limiting physical access to the food and beverages.

PHYSICAL INVENTORY COUNTS

All systems can print traditional inventory count sheets for the storekeepers to mark with the on-hand quantity of each item in its various pack sizes. However, the process is slow and tedious, as well as prone to transcription errors when the counts are entered into the I/P system later. As a result, hand-held bar code scanners are increasingly used, bringing improvements in speed and accuracy through precise product identification and automatic data upload into the I/P system. Items without bar codes on their own packaging can have adhesive or hanging labels printed for them by the I/P system during the receiving process. These bar code scanners are used when items are requisitioned from the warehouse by the individual outlets to remove items from the warehouse's inventory and add them to the outlet's.

This capability allows I/P systems to track the expected shelf life of fresh produce items, poultry, and other highly perishable products to ensure that stock is rotated or disposed of before it deteriorates. It's obviously important to monitor usage carefully to set proper on-hand quantities; too little and you lose sales, too much and it spoils. Chefs have always had to do this, of course; what's different now is the inclusion of item shelf life in an inventory system for a more structured recording and analysis approach.

For larger operations that can track physical inventory through warehouse controls, monthly physical inventory counts are becoming less common, at least in the United States, and more properties now use cycle counts. A

typical breakdown would be china/glass/silver/etc. annually, linen semi-annually, food quarterly and beverage monthly. High-cost items, however, are still tracked on a monthly basis, along with spot checks of other key items. Smaller operations that do not have warehouse facilities, and therefore have less control over inventories, still complete physical inventories on a more frequent basis. The most important thing to remember is that I/P systems that rely on requisitions and invoices to monitor costs can only tell you what should be happening. The only way to determine what is actually happening is to take a physical inventory.

MENU ANALYSIS

Many systems include a menu analysis module that will adjust the cost of prepared recipe items based on the latest (or averaged) cost of ingredients. This is definitely worthwhile, but requires careful thought during system implementation to make sure that you don't try to micro-manage every possible detail. Recipe pricing and menu analysis are tempting areas for refining cost controls, but if overdone can quickly bog down the users in a never-ending round of data entry and maintenance. This applies especially where a chef has significant flexibility in menu choices, although frequent changes in product pack sizes also make keeping up with recipe changes burdensome. The preparation instructions for a recipe may include more detail than is practical to cost (one pinch of salt, one pinch of pepper: these are consumables, whose cost can be allocated as a small add-on to all recipes) and managers must keep an eye on what's really worth tracking. Overall cost percentages are clearly the key figures to watch, but nevertheless the main recipe items in typical menus should be costed on a periodic basis to keep an eye on whether their pricing is still appropriate.

Properly applied, however, these systems can be of immense value in identifying not only waste but specifically where waste is occurring. Assuming recipes and yields are entered properly, each time an individual portion of an item is sold, the menu management system will deduct one portion's worth of each recipe item from inventory. At the end of a given period the menu analysis system can tell management how much of each item should still be available in inventory. When a physical inventory is conducted the amount actually on hand can be compared to the amount that should be on hand to determine exactly what is being wasted and in what quantity.

Because recipe entry is often seen as requiring a daunting data entry effort despite the extra returns it brings, some vendors include entry of a given number of recipes as part of the system implementation. It is certainly worth doing periodically for common and high-priced dishes as a spot check on prices, especially on brunches and buffets. Casinos in particular see recipe pricing as a vital part of their cost control. Even if the vendor does not offer this service, it is a worthwhile investment of labor as it need only be done