

CABI TOURISM TEXTS

2<sup>nd</sup> Edition

# Tourism Information Technology

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COMPLIMENTARY TEACHING  
MATERIALS

# Chapter 9

## Hospitality Information Systems



## Chapter 9 Learning Objectives

After studying this chapter you should be able to:

1. understand the nature of the hospitality industry and its unique applications of Information Technology (IT);
2. be able to explain how a hotel's property management system works and connects to other systems in the hotel;
3. know the ways a hotel can service its guest better with IT applications throughout the hotel;
4. know how restaurants can use IT for improved operations; and
5. to understand how a hotel or restaurant can use IT for improved management and decision-making.

## Key Concepts

- ⊙ Front-office and back-office systems
- ⊙ Decision Support System (DSS)
- ⊙ Electronic locking systems
- ⊙ Energy management system (EMS)
- ⊙ Expert information system (EIS)
- ⊙ Point-of-sale (POS)
- ⊙ Property Management System (PMS)
- ⊙ Revenue management system (RMS)

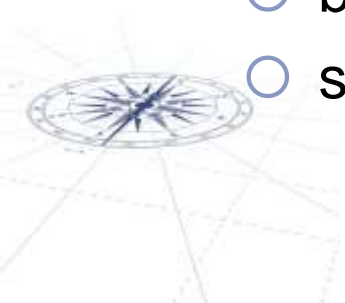


# Common IT Applications in Hospitality

- ① **Front-office applications:** reservation system, check-in/check-out, room status and housekeeping, in-house guest information and guest accounting.
- ② **Back-office applications:** personnel, purchasing, accounting, inventory, sales and catering and financial reports and statistics.
- ③ **Guest-related interface applications:** call-accounting, electronic locking, energy management, guest-operated devices and auxiliary guest services.
- ④ **Restaurant and banquet management systems:** menu management, recipe management, sales analysis and forecasting, menu-item pricing and cost control.

# Property Management System (PMS)

- ⦿ Handles the core functions of information processing for an accommodation property and is the hub for all interconnectivity with other systems in the hotel.
- ⦿ Major functions:
  - reservations management
  - guest folio and billing
  - rooms management
  - back-office applications
  - specialized functions



## Hotel websites

- ⊙ Generate direct sales and provide greater control over inventory than other electronic booking channels.
- ⊙ Avoid commissions.
- ⊙ Features of successful hotel websites:
  - interactive and easily navigable
  - quality information
  - online booking capability
  - price comparison features
  - maps
  - multiple language support
  - links to local points of interest

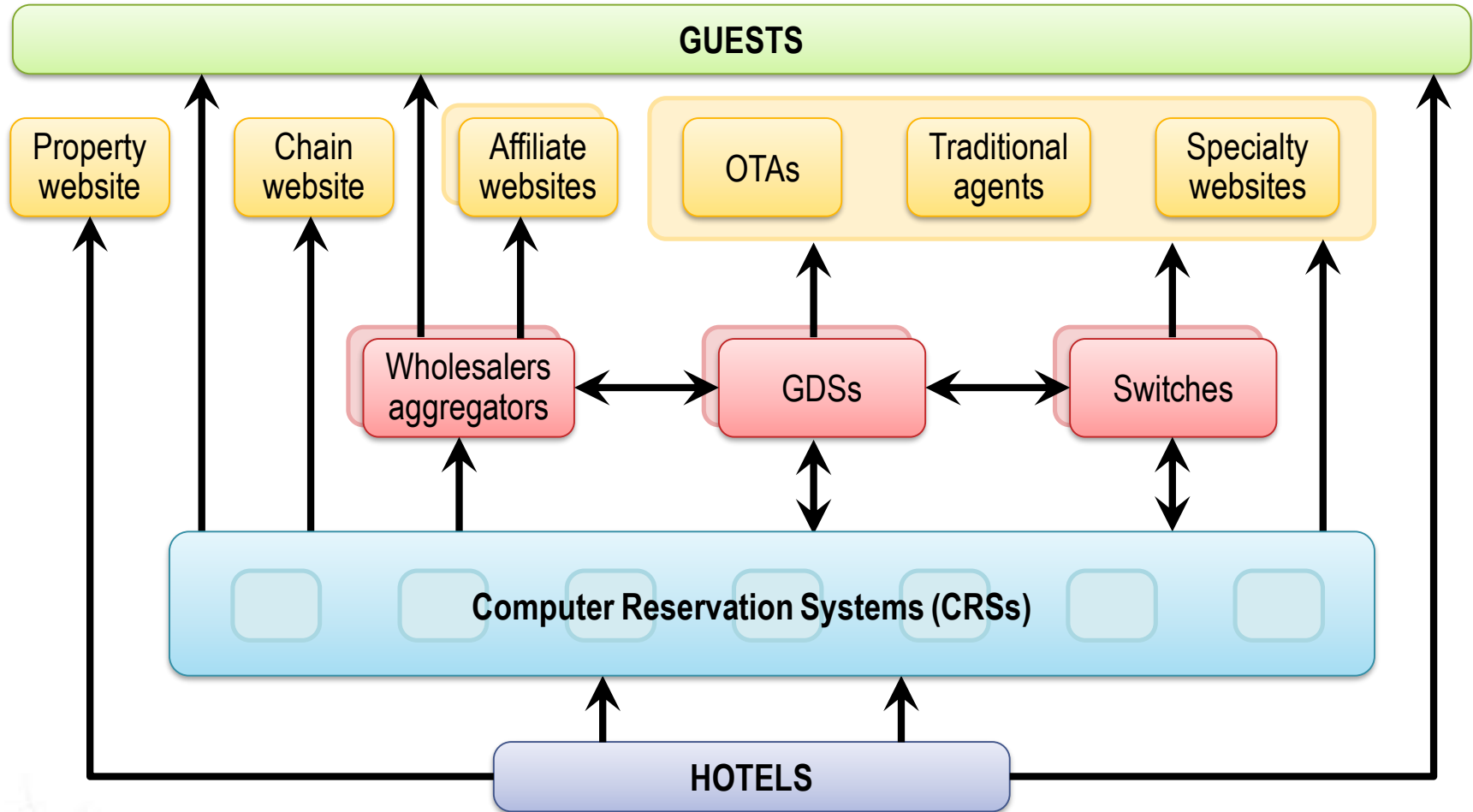
## Electronic hotel reservations

- ⦿ Online travel agents (OTAs)
- ⦿ Metasearch engines
  - Specialized accommodation search engines
  - TripAdvisor
  - Google Hotel Search
- ⦿ Channel Managers
- ⦿ Mobile apps





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**Figure 9.1** Electronic hotel room distribution.

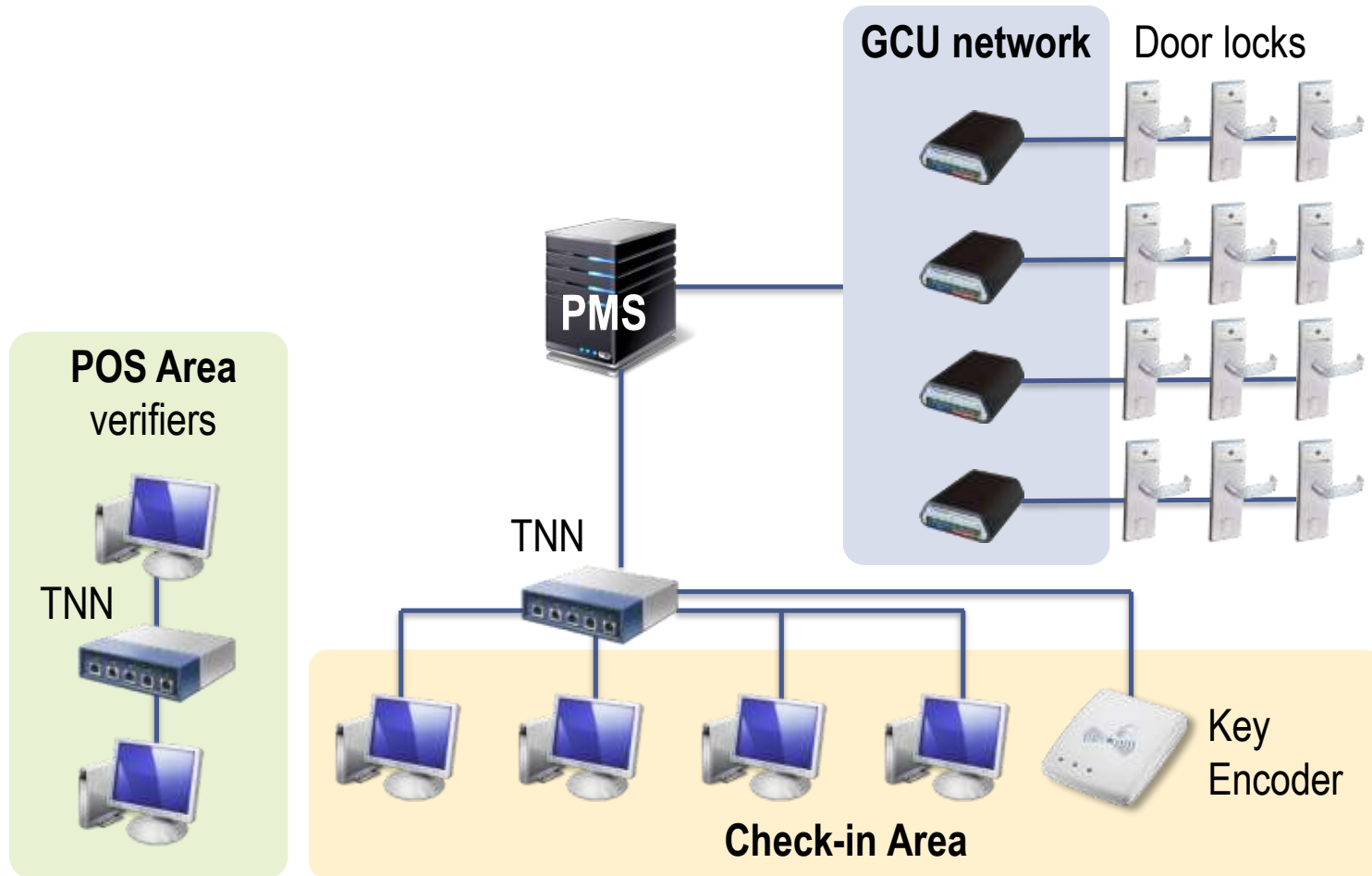
(Adapted from: Carroll and Siguaw 2003)

## Guest Applications

- ⦿ Customer relationship management
- ⦿ Guest history system
- ⦿ Guest room amenities
  - Electronic locking system (ELS)
  - Guest information and entertainment devices
  - Guest services technology



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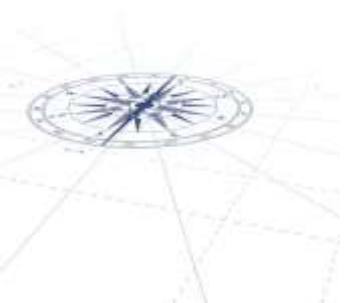


TNN=Terminal Network Node | GCN=Group Controller Unit | POS=Point of Service

**Figure 9.2** Hardware configuration for an ELS.

## Hotel communications

- ⦿ **Private branch exchanges (PBX):** controls the connections of hotel telephone calls to the outside world for guests and employees.
- ⦿ **Call accounting systems (CAS):** allows the hotel to route and track calls without using the local telephone company.



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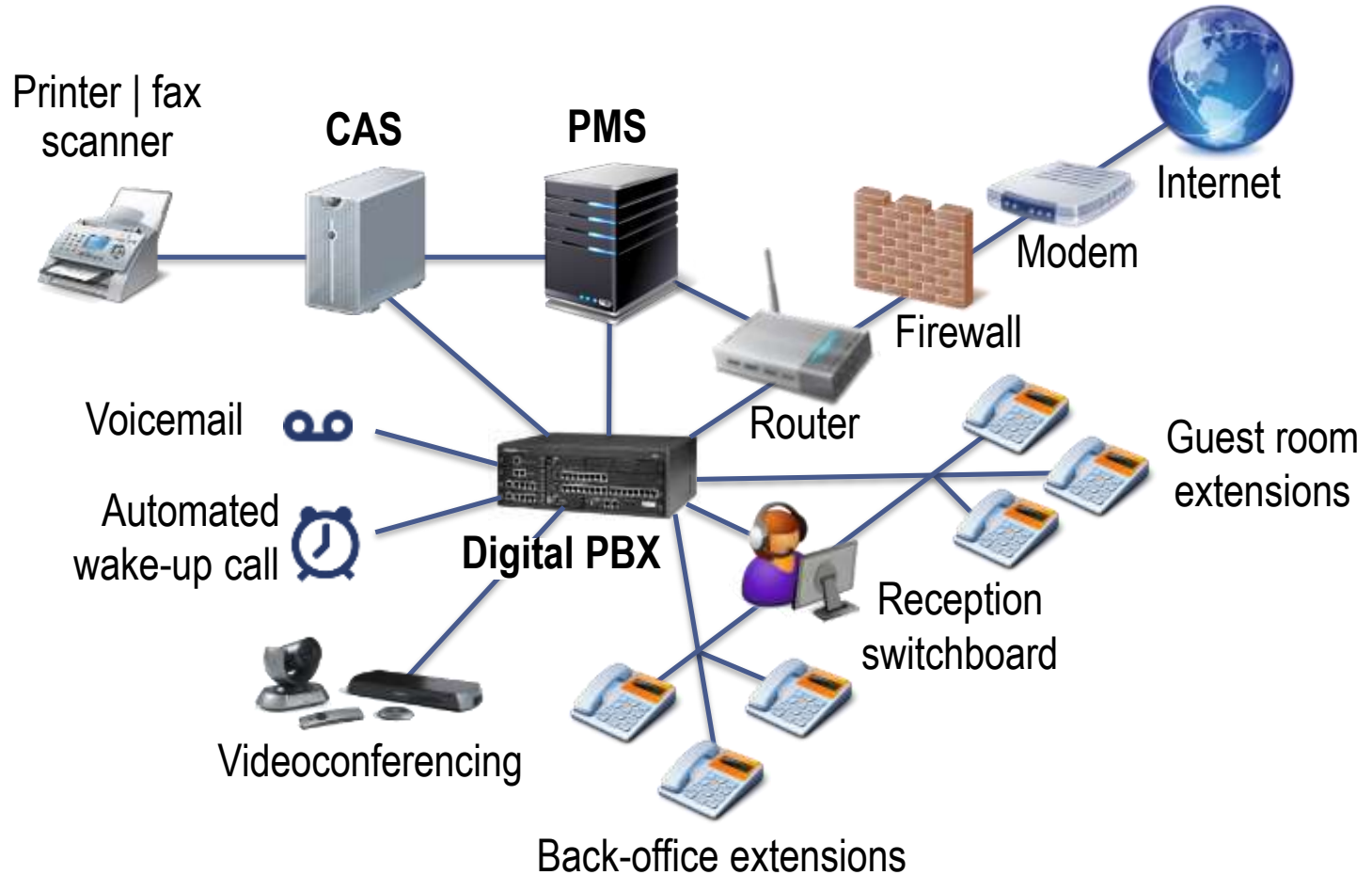


**Figure 9.3**

Analog telephone switch  
PBX.

(Source: Seattle Municipal Archives, 2008)

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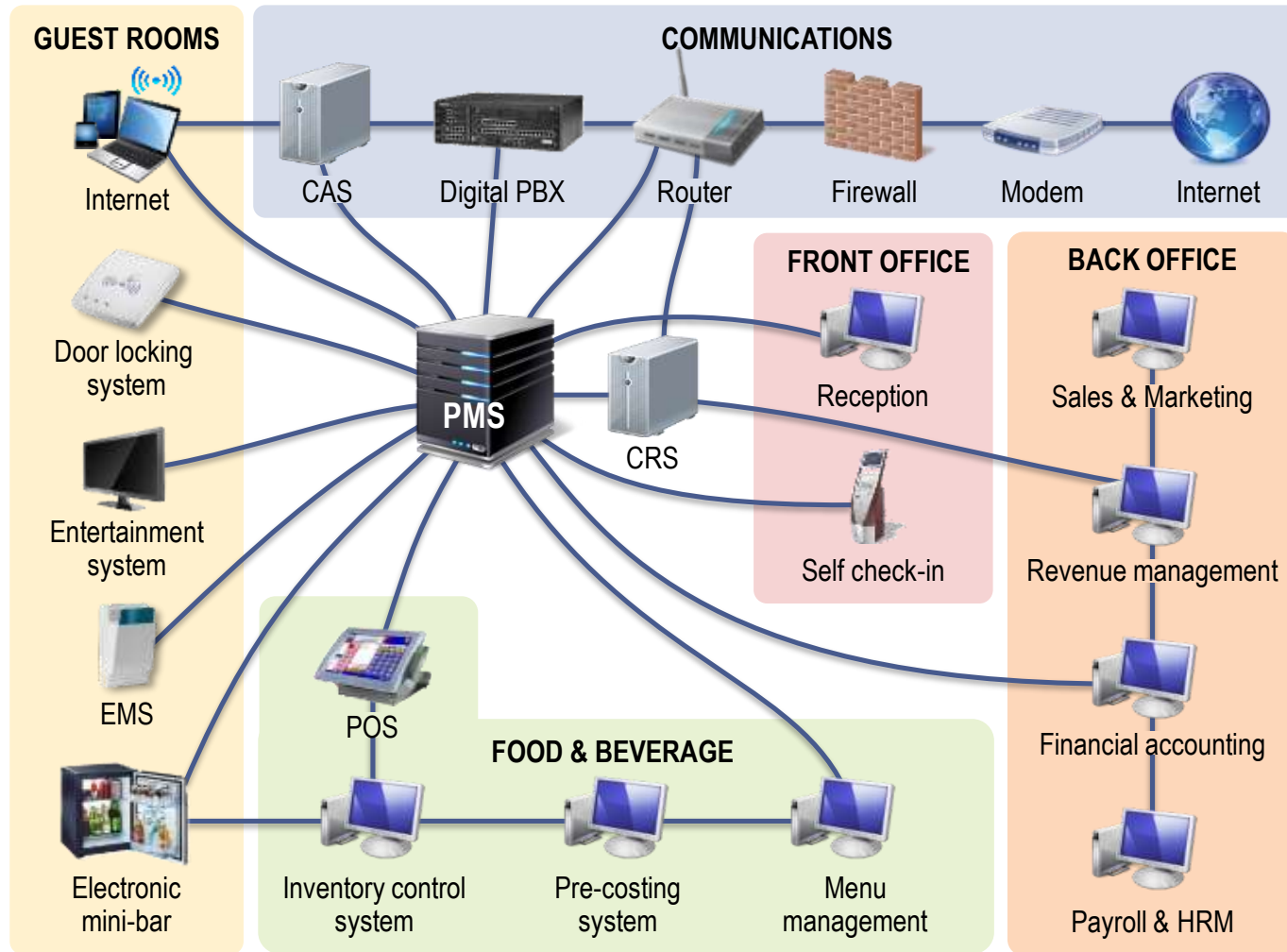
**Figure 9.4** Example of a digital PBX system.

## Energy management systems

- ⦿ monitor, control and optimize energy consumption in a hotel;
- ⦿ can link to ELS to determine whether a room is occupied and can automatically adjust air conditioning, lighting and heating;
- ⦿ infrared body scanners; and
- ⦿ electronic bedside control panels and mobile apps



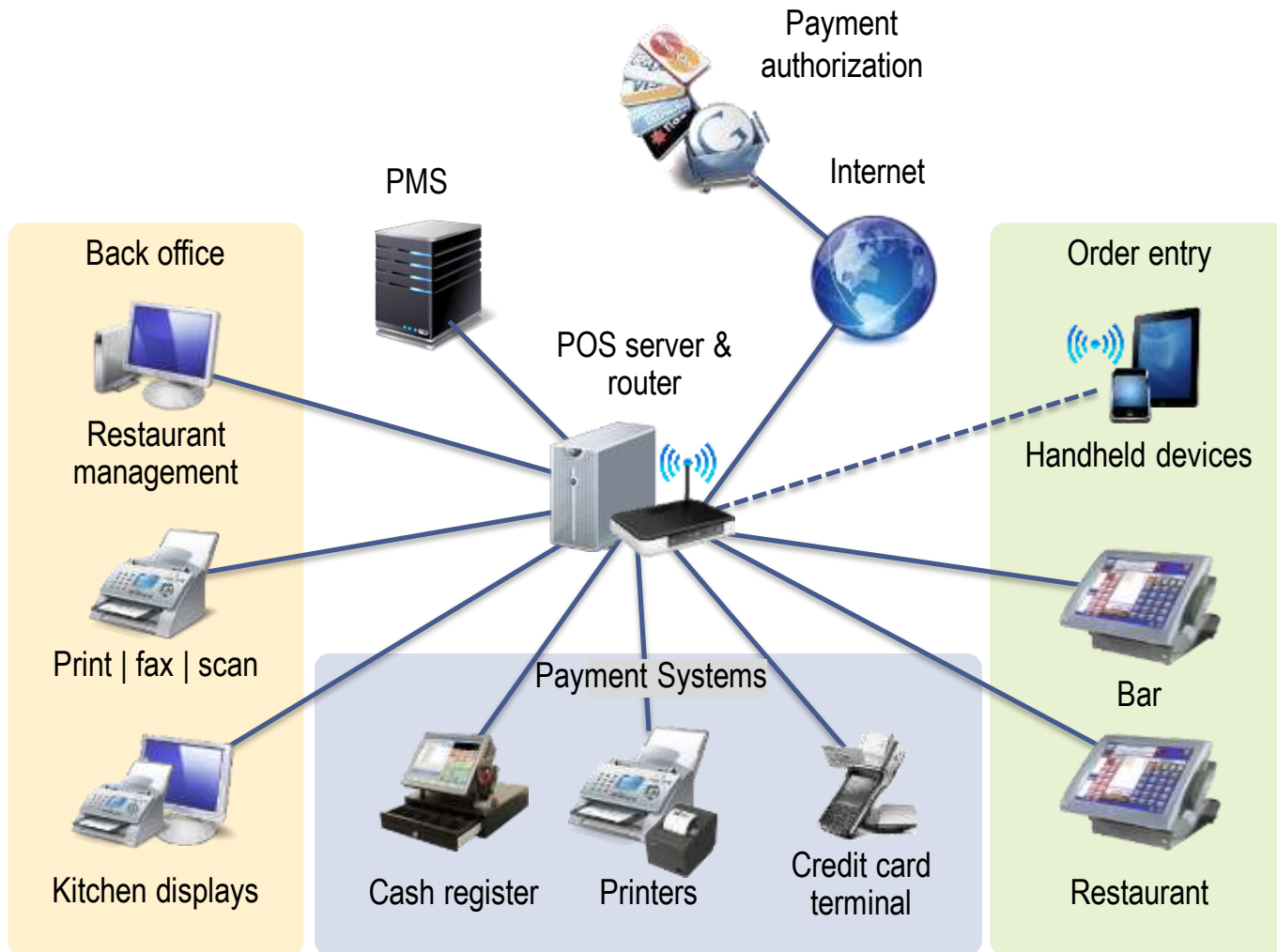
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**Figure 9.5** Property Management System (PMS) interfaces



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**Figure 9.6** Foodservice IT applications.

## Discussion Questions

1. If you were the manager of a campsite in a national park with 30 cabins of different sizes and one restaurant, what functionality would you want from a PMS? Describe the kinds of technology that would be appropriate for this kind of lodging. Which channels would you use to sell your cabins? Why?
2. Explore the website of an international chain hotel and one of an independently owned and operated hotel. Compare and contrast the two sites.
3. Describe all the ways that a restaurant or cafe could use mobile apps and technology to relate to its customers.

## Discussion Questions

4. Visit a local restaurant and find out all you can about their POS and other technical applications.
5. Identify as many hotel booking websites as you can. Choose one hotel that you would like to visit and investigate how it is presented on all the various sites. Visit TripAdvisor and read some of the reviews for the hotel. What conclusions can you draw from this investigation?
6. OTAs have caused many hotels to lose control of their inventory and pricing and this has eroded not only profitability but also brand equity. Unlike hotels, airlines have not suffered from the same problems. Why are the airlines in a different position? If you were a hotelier, what strategies would you use to overcome this problem?

## Useful Websites



**Hospitality Information  
Technology Association  
(HITA)**

[www.hospitalitynet.org](http://www.hospitalitynet.org)



**Hotel Electronic Distribution  
Network Association (HEDNA)**

[www.hedna.org](http://www.hedna.org)



**Booking.com**

[www.booking.com](http://www.booking.com)



**WebRezPro**

[www.webrezpro.com](http://www.webrezpro.com)



**Pegasus Solutions**

[www.pegs.com](http://www.pegs.com)



**Silverbyte Systems**

[www.silverbyte.com](http://www.silverbyte.com)

## Case Study: Marriot Hotels

- ⦿ A leading lodging company headquartered in Maryland, USA, with over 3800 properties in 72 countries with 325,000 employees.
- ⦿ VP of Global PMS oversees all the PMS operations worldwide.
  - Marriott uses many IT applications to manage a huge hotel chain;
  - one PMS is used in all properties – the Micros Opera PMS;
  - mobile check-in for members of its Rewards program;
  - online back-office portal called BrandWorks was created in 2007 to manage marketing collateral;
  - Marriott uses Facebook, YouTube and Twitter extensively while also developing new social media strategies for its brands; and
  - in 2011 they released a *My Marriott Hotel* social game, where users can manage different parts of a Marriott hotel.