

Sabre users throughout the USA and is planned for release in Europe during 1997.

Sabre pricing

Sabre pricing, like many GDSs, comprises two main elements: (i) equipment rental and service charges, and (ii) volume related credits. A separate pricing schedule is agreed with each user, which is designed to encourage bookings made via Sabre. There are two inter-linking components. First, there is the cost of the equipment and associated network usage: second, there is the booking fee credits that Sabre rebates to the subscriber via a productivity based agreement (PBA). These components are described in more detail as follows:

- **Costs** The equipment rental and service charges vary according to several factors such as: the number of computer terminals or PCs required by the user, the operating system running in the user's PC, the number of remote locations that require access to Sabre, the type of ticketing used, the level of functionality required, the storage space within Sabre allocated to the user, the software products implemented and the amount of training needed. These factors are all taken into account and a monthly fee calculated.
- **PBA** Against this monthly fee is set the PBA. This is a booking target that is set by Sabre in conjunction with the subscriber and is reviewed every three months. The PBA is the vehicle used to share the booking fee income derived by Sabre from other airlines, for bookings originating in Sabre. The greater the number of segments booked of all products, i.e. air, hotel, car, etc., the greater is the credit given by Sabre to the subscriber. There are, as one would expect, a few ground rules that the subscriber is expected to observe. A good example is the non-allowance of passive segment. Subscribers may not create a booking in an airline system using some other form of communication, e.g. telephone or other GDS, and then duplicate the booking in Sabre. Such passive segments will not count towards the PBA target. Nevertheless, it is quite possible for the cost of the entire system to be off-set completely by the PBA credits.

Sabre's integration technology

Sabre runs within a surprisingly varied number of different technical environments. The software is available, not only in the IBM and IBM-compatible world, but also in the Apple Mac world. Sabre has a technical team whose job it is to make the system work in whatever environment the customer wants (within reason of course!). In Spain, for example, there is a customer who accesses Sabre via an in-house DEC VAX minicomputer using two different terminal networks: (i) dumb DEC terminals, and (ii) Sabre PC terminals. In this configuration, each type of terminal has access to both the DEC minicomputer and also the Sabre system.

In the straightforward IBM-compatible world, Sabre runs in an environment with a file server and one or more workstations. The type of PC needed to run Sabre will vary with the product used. Sabre for DOS is less demanding on the workstation, which can be a 286 or higher. Sabre for Windows requires a 386 or 486 workstation PC with at least 4 Mb of RAM and a mouse. The server in each case needs to be a 386 or 486 with at least 4 Mb of RAM and a minimum of 80 Mb of hard disk space running under Novell Netware Version 2.15.

Sabre Europe has introduced Pentium PCs as the primary hardware platform for Windows 95 users. The hardware is assembled and provided by the Dell Computer Corporation. A range of models is available from the minimum – a Pentium P100 processor with 8 Mb RAM, 1.2 Gb hard disk, quad speed CD-ROM and PCI video with 1 Mb of RAM, to the maximum – Pentium P133 processor with 32 Mb RAM and other devices.

WORLDSPAN

This leading GDS (Fig. 4.16) has its origins in two of the world's most important CRSs, namely Delta Airline's Datas II and TWA/Northwest's PARS. These two reservation systems combined their resources and skills in 1990 to form Worldspan Global Travel Information Services. The resulting company is now owned jointly by Delta Air Lines, Northwest Airlines, Trans World Airlines and ABACUS Distribution Systems PTE Ltd. Incidentally, ABACUS is one of the largest GDSs



Figure 4.16 Worldspan logo

in the Far East and its owners include Singapore Airlines, Cathay Pacific and Dragon Air. ABACUS and Worldspan each have a cross share-holding in each other's companies. Worldspan's world headquarters and host computer are both co-located in Atlanta, USA. This computer handles 1.2 billion messages globally in a peak month (an average of 1,377/s), stores an average of 7.8 million international PNRs and has a data base of over 85 million fares. The organization has two systems development centres in Kansas City and Fort Lauderdale.

With operations in 45 countries, more than 15,000 sites around the world, 8,000 of which are in the international arena, Worldspan is truly a global GDS. Its Europe/Middle-East/Africa (EMEA) region alone comprises 33 countries and is home to 29 independent Worldspan offices. The central market development activities, along with other support activities, such as finance, sales and marketing, the region's central help desk and technical support functions, are located in the international division at London's Heathrow airport. Over 6,600 travel agencies in the EMEA area can book from a total of 414 airlines, 40 car rental companies, 165 hotel chains, 29,000 hotels and 38 special travel service suppliers including cruise lines, railways, ferries and tour operators, all of which are available via Worldspan.

Since its inception in 1990, Worldspan has grown by over 550 per cent. This is especially significant, bearing in mind the company's niche marketing strategy. This strategy may be summarized as comprising two major elements: (i) the provision of customized systems, rather than fixed products; and (ii) an emphasis on the mixed leisure/business travel agency market, rather than, for example, having a primarily business travel focus as do many other GDSs.

Worldspan has always focused on providing its customers with bespoke systems, tailored to individual and specific business needs. This has resulted in the development of over 83 unique customer systems, outside of the central host GDS applica-

tion. Now that Worldspan is firmly established as one of the world's leading GDSs and the niche marketing programmes of the past few years have been successfully completed, other new distribution channels are being considered. Prime examples include the corporate market and on-line services. Worldspan is in a strong position to consolidate product offerings and exploit the emerging technologies of these new distribution channels, mainly because of: (a) its wide exposure to so many different customer requirements within the global travel business; (b) the unique customer solutions that have been successfully developed and delivered; and (c) its global network, which supports many different communication protocols including the Internet (see Chapter 5).

So, there is an opportunity for Worldspan to pick some of the common functions that run through all of its bespoke customer developments and construct key generic products that have a wide appeal to the travel and tourism market. In the short term, therefore, Worldspan remains a substantial transaction processor; however, in the medium to longer term, the company's strategic focus is likely to shift so that it becomes even more of a technical partner for its customers. As a technical partner, Worldspan is in a strong position to provide consultancy and expertise in areas such as: helping customers to choose the best PC for their in-house departments, setting up an Internet site, distributing head office functions throughout an enterprise or establishing a strategic direction for a customer's technical environment.

Supplier connectivity

A good starting point for a walk-through of any GDS functionality is to consider the way in which suppliers are connected into their global network. This really breaks down into two main areas: (i) there are the suppliers that have been connected to the central host system for many years and provide the global dimension to the Worldspan service, and then (ii) there are the local suppliers that are connected in their countries of origin. Because both types of supplier are key to Worldspan's utility within several key user markets, it is important that you understand the supplier side of this major GDS before we consider the end-user functions.

Central supplier systems

In terms of central host connectivity, it is widely recognized that all the four main GDSs provide virtually the same levels of connectivity. Although some differences remain, generally speaking, all of the four major GDSs offer similar supplier interface functions. Some of the smaller airlines favour the particular GDS with which they are formally associated and deny some marginal functionality to other GDSs. However, airlines are becoming much more clearly focused on their core products and key competencies, which are the provision of airline seats to a globally distributed customer base. Airlines, and consequently their associated CRSs, are becoming much more relaxed about providing full functionality to any major system that can sell more seats on their aircrafts, thereby maximizing group revenues.

This levelling of the GDS playing field also extends into the area of host participation. Besides the basic level of participation entitled AccessPlus, which provides last seat availability on over 134 airlines, Worldspan offers its host airline CRSs the following levels of participation:

- **Airline Source** This is the highest level of participation that is available to airline customers. It features a real-time communications link between the participating airline's CRS and the Worldspan host computer. Each time a user, e.g. a travel agent, requests an availability display that involves a segment from the participating airline, an interactive on-line dialogue takes place. In such cases Worldspan provides the user with a transparent response from the participating airline's CRS. This enables the user to view availability as though they were connected directly to the participating airline.
- **Direct Sell** This allows Worldspan users to access a participating airline's CRS directly and hence its inventory. It therefore allows users to view inventory status interactively in real-time, just as though they were themselves connected to the carrier's CRS. This means that they may directly decrement the airline's seat inventory prior to ending the transaction. The participating CRS generates an acknowledgement record including the PNR locator, which

is stored within the Worldspan PNR. This is known as Positive Acknowledgement.

- **Direct Access** This is a real-time link between Worldspan and the participating airline's CRS, which is slightly more sophisticated than Direct Response. This provides the end user with true last seat availability.
- **Direct Response** This is the most basic level of participation and provides the other airline system with the ability to return an acknowledgement message, including a PNR locator. This message may be generated either: (a) from a manual teletype entry, or (b) from an automated computer response. When the locator reference is received, it is placed into the Worldspan PNR.

If you compare these levels and types of participation with other GDSs included in this chapter, you should see that they are all very similar. This illustrates the comment I made earlier emphasizing the increasing levels of co-operation among airline CRSs.

In terms of hotel and car systems, Worldspan also provides the kinds of linkages and connectivity one would expect of a global GDS. The Worldspan host computer is both: (a) connected directly to the computer systems of the major hotel chains; and (b) connected to hotel industry switches, such as Thisco and Sahara. This web of inter-connectivity is masked from the end user by the Worldspan back-end system. This decides the optimum routing for reservation messages and also standardizes the responses from each of the different supplier systems used.

All the user does, for example, is to select a hotel property from a list of those available on the system and enter a service request, e.g. an availability display for a particular room type. The back-end system then decides whether to: (a) route this message via a direct connection to the hotel system, or (b) route the message via the relevant hotel switch. Once a response is received it is displayed to the user in a standard format.

Local supplier systems

What really differentiates one GDS from another are two critical success factors: (i) the range of local supplier systems available to customers, and

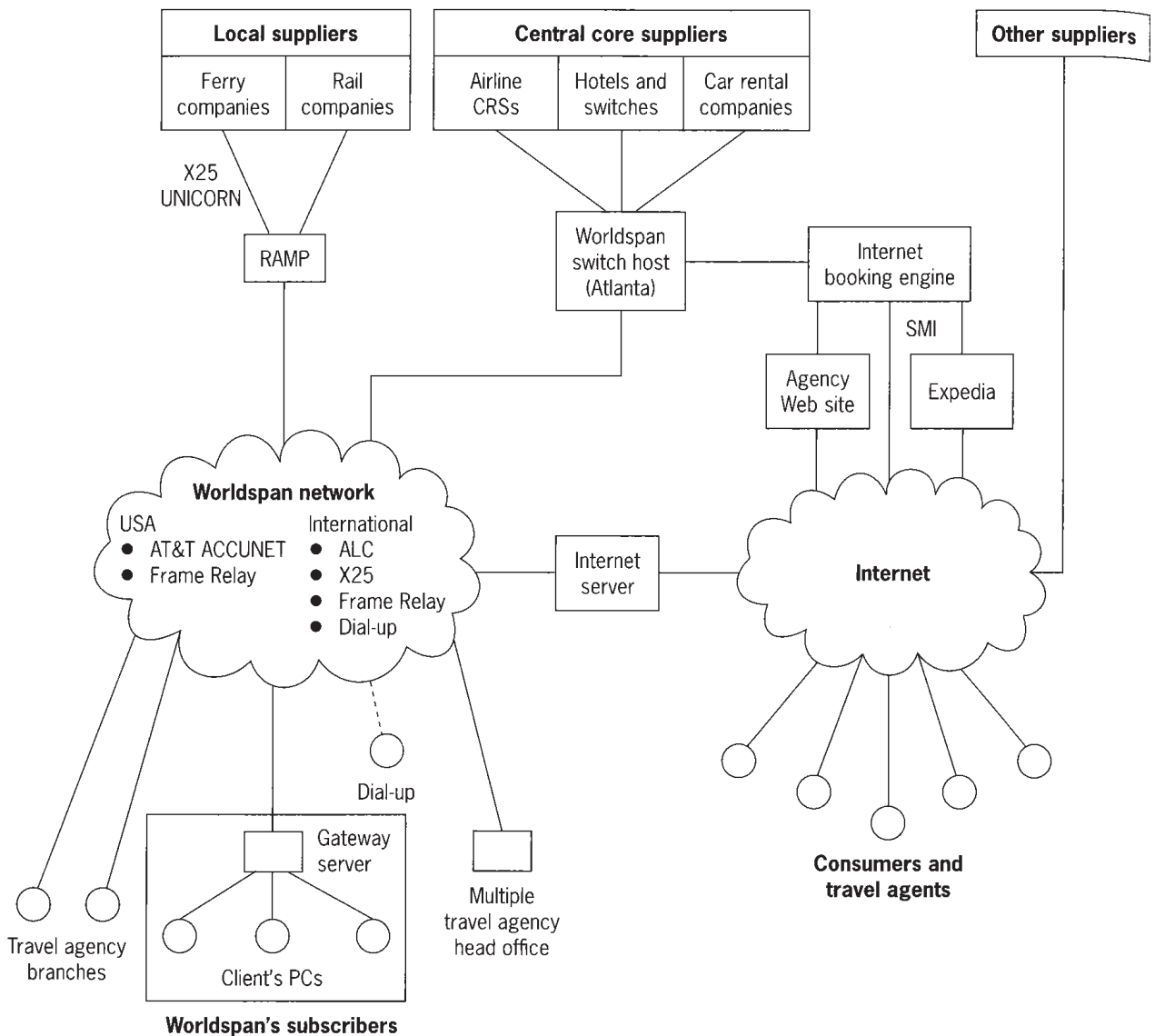


Figure 4.17 The Worldspan GDS network

(ii) the distribution network that the GDS uses to reach its customers. It is these two areas that have been the principal focus of Worldspan's attention over the past six or seven years. Let's take a closer look at the first of these two critical success factors – the way in which Worldspan connects into what are often called non-core local supplier systems.

As previously mentioned above, the core supplier systems are those that provide Worldspan users with access to airline bookings, hotel reservations and car rental services. All of which are connected into the main host computer located in Atlanta. This large and powerful main-frame

computer provides end users around the world with all of the functions normally provided by a GDS and is described above in the section on central supplier systems.

Worldspan's approach to connecting into non-core supplier systems is a decentralized one. This means that non-core suppliers are connected into the Worldspan network (Fig. 4.17) in the countries in which their systems are located. End users may then access these supplier systems via the Worldspan communications network without having to be routed via the host computer in Atlanta. The two principal areas where many

non-core supplier systems have been interconnected into Worldspan are ferries and rail companies. Worldspan's relevant GDS product for each is as follows:

- **Ferry Source** Ferries are a good example of locally connected supplier systems. Most leading ferry company systems are connected into Worldspan's X25 network. Worldspan's ferry booking function provides users with direct access to the leading ferry companies' own host systems. Ferry Source is available to any Worldspan DOS Alliance customer on the X25 network who is also an account holder with the ferry company accessed.

These ferry systems use the UNICORN standard for information and booking messages to communicate with Worldspan (see TTI in Chapter 1 for more information on UNICORN). This means that travel agents may use their PCs to connect into any one of the ferry systems available using a common language, i.e. a common GUI. Participants include Stena Line, P&O European Ferries, Hoverspeed, Brittany Ferries, P&O North Sea Ferries and Moby Lines.

- **Rail Access** Worldspan has several links to rail service computers around the world. In many cases access is limited to users within the country in which the rail company operates. However, increasing use of overseas rail services is being planned and developed by Worldspan. Rail host connections are therefore effected in two ways: (i) a direct connection to the Worldspan host main-frame computer in Atlanta, or (ii) a local connection into the Worldspan network in the country of origin. Centrally connected rail suppliers support the integration of non-air reservations into a single Worldspan PNR, along with other air segments that may be part of the same booking. However, bookings made via locally connected non-air hosts must be filed separately from airline PNRs within Worldspan.

Because access to rail systems is core to Worldspan's business in Europe, discussions are being held with most major rail operators throughout the area. The current situation, as at early 1997, is as follows:

- *Belgium* For the past two years, Worldspan has been providing access to Societe Nationale des Chemins de Fer Belges SNCB – Belgian railways, for Belgian users only. This enables agents to check timetables, book rail journeys and issue rail tickets.
- *France* Subscribers will soon be able to access Societe Nationale de Chemins de Fer Francais (SNCF) and enjoy similar functionality to that available in Belgium.
- *USA* All Worldspan users have access to Amtrak, the USA national rail network, which is directly connected to the Worldspan host system in Atlanta. Worldspan is currently the only approved GDS in the UK that can issue Amtrak BSP tickets. Amtrak tickets sold by IATA licensed travel agents in the UK may therefore be settled via the UK's BSP process (see Chapter 7 for more information on BSP).
- *Canada* Also connected to the Worldspan host computer in Atlanta, is Canada's Via Rail network. Reservations are effected using standard airline entries that can also support Via ticketing.
- *Germany* The Fly Rail service (a German domestic service), is available to German users of Worldspan only.
- *UK* In the UK, users may access the European passenger service (EPS) Tribute system for trains that use the channel tunnel for travel to Paris, Brussels and other European destinations. The link to EPS is effected via a special terminal connected to the Worldspan network (although this is planned for upgrade in 1997). Access to the UK's domestic train services is available via Worldspan's link to the FACETS computer in Nottingham (see Rail in Chapter 3 for more information).

Looking to the future, Worldspan is investing substantial resources in enhancing its ability to interconnect with even more local suppliers. The vehicle for this strategy is a general purpose communications interface system that has been developed by Worldspan under the code name of 'Project RAMP', i.e. the Regional Applications and Messaging Platform. RAMP is an important new development that forms the infrastructure for

Worldspan's future supplier distribution strategy. It does the same kind of job as Sabre's ELVA, Galileo's NVP and Amadeus's START/SMART/Estoril products. However, RAMP has one very important feature – it is based on the Internet's communications protocols. This is one of the key reasons why Microsoft decided to use Worldspan as the booking engine for its Expedia web site. RAMP is discussed in more detail in Chapter 5, which also includes an in-depth discussion of Microsoft's Expedia.

Worldspan's host functions

The Worldspan GDS provides its users with a rich set of information and booking functions. These are distributed by a global network that links travel agents' PCs with the Worldspan host computer and other supplier systems. However, before we consider the distribution network, it is critical that you gain a sound understanding of Worldspan's end-user functions. After all, it is these core functions that are distributed across the various end-user networks:

- **World File (client profiles)** A client profile consists of those details that describe a travel agent's customer in terms of flight preferences, personal contact details and corporate information. The storage of these client profiles may be either at the local workstation level or on the Worldspan host main-frame. The advantage of the host option is that the profile is available from any authorized user around the world. World File profiles may be used by travel agents to create and populate PNR fields automatically that can save a great deal of time during the customer booking process.
- **Airline schedules and availability** This shows flights for all participating airlines in an unbiased display that conforms to the regulations set by the UK's Department of Trade and the European ECAC (see Chapter 1). The flights are shown in the order of 'best trip', i.e. least flying time first.
- **Airline fares** Worldspan's international fares data base comprises 85 million fares of which 50 million are for the European area alone. Each day Worldspan processes an average of 750,000 fare changes. Also shown for each fare is the text describing each rule and its associated routings that have been filed with the authorities in each case. The Worldspan fare products that are available on the system are:
 - *MoneySaver* This product automatically displays fares in low to high sequence.
 - *Low Fare Finder* Identifies and books the lowest fare applicable to a booked itinerary.
 - *Ultimate Fare Search* Instantly displays fares for the travel dates specified.
 - *Power Quote* With this tool, the travel agent does not need to have prepared an itinerary as part of a PNR. With simply the from/to city pairs specified, the system will find the lowest fare.
 - *Power Pricing* A key component of Power Quote is known as Power Pricing – Worldspan's low fare finder. Given an itinerary, created as part of a PNR for a passenger, it will find three alternative lower priced options.
 - *SecuRate Air* This is a product that offers participating carriers and subscribing travel agents an electronic means of creating, managing and distributing a wide range of negotiated fares. These fares are proprietary to a specific travel agent and may not be viewed by others.
- **Hotels** Worldspan provides its users with access to large and sophisticated hotel information and booking systems. This is supported by high speed links to hotel switches and hotel computer systems themselves. Because of its interdependence with the hotel industry, Worldspan is a member of HEDNA (see Chapter 1 for more information on HEDNA). The relevant Worldspan hotel-related GDS products are:
 - *Worldspan Hotel Select* This feature allows the travel agent to view detailed rate information, availability displays, amenities information and confirmed bookings for over 182 hotel chains and 26,000 properties. Access Plus links users directly into the reservation systems of 67 hotel companies, thus allowing instant confirmation numbers to be obtained. Other features include: (i) the hotel default record – this allows each travel agency user to tailor his/her own hotel reservation screen so that certain pre-set defaults are always shown at the outset of a booking (examples

of defaults are the number of nights, distance from airport and the rate plan code); (ii) Worldpoint – a geo-locating product that provides accurate distance and direction parameters to and from hotels and reference points such as airports, railway stations and local attractions (the locators are based on longitude and latitude grid references); (iii) Electronic Rate Update – allows hotel associates electronically to update hotel property rates dynamically, thus ensuring the accuracy and availability of all rates offered by the hotel associate, within the Hotel Select product; and (iv) Negotiated/SecuRate – special hotel rates negotiated by travel agents can be entered into the Hotel Select display by the hotel concerned. This information is of course agent specific and saves additional phone calls by the agent that would normally be required to confirm rates for certain customers during the booking process.

- *Worldspan Hotel Source* This provides an interactive, real-time seamless connection to the databases of participating hotel associates. The display shows up to the minute room and rate availability, rate rules, reservation displays, services and other information. This enables the travel agent to make hotel bookings directly in the system that is used to maintain the property's inventory of rooms.
- **Cars** The Worldspan main-frame host computer also links directly into 40 of the world's major car rental company systems. The services offered are:
 - *Worldspan Car Select* This feature supports user-friendly fill-in masks that facilitate the entry of fields, such as vehicle code options, rate variation, rate categories, car selection by hire company, price or vehicle type and the MoneySaver function. Access Plus provides last car availability for reservations with more than 40 leading car companies world-wide, i.e. 90 per cent of the car rental market, including the Association of Car Rental Industry Systems Standards (ACRISS) members. ACRISS recently elected Worldspan an honorary member. Access Plus provides a direct link into the internal reservation

systems of the participating car rental companies, thus supporting rate verification and instant confirmation numbers.

- *Car Point-Of-Sale* This feature enables car companies to load rates according to agent identity or geographic location. Rates are tailored according to the identity or physical location of the subscriber, thereby preventing the offer of un-saleable rates, i.e. rates that are available in the USA but not in, say, Holland.
- **Airline reservations** Single entries made by the agent at the Worldspan terminal PC allow up to 12 air segments to be booked. Seats that have already been booked may be cancelled as necessary and subsequently re-reserved. Air, non-air and combined air/non-air PNRs can be booked. PNRs may be retrieved by passenger name, PNR file address, flight, departure airport name or departure time.
- **Queues** Users may access Worldspan's automated queue control system to schedule time dependent actions that need to be carried out on customer PNRs. The Queue Record Search facility, for example, allows all PNRs for a specific airline, date, flight or other determinant, to be accessed using a single entry.
- **Tickets and travel documents** Tickets, boarding passes, complete itineraries and invoices may all be produced using the Worldspan system. These are requested by specific client name or flight segment and can be customized with, for example, specific PNR data and important remarks to clients. Additionally, the following are also supported:
 - *ATB2* Worldspan has recently completed Beta testing of its automated support for the printing of ATB2 tickets, i.e. a combined airline ticket and boarding pass. This will be rolled out in the UK and other markets as required. The ATB2 control software, usually known as a driver, will support two print hoppers and therefore two types of ticket: (i) an airline ATB, or (ii) a rail or ferry ticket.
 - *Electronic ticketing* Worldspan has been supporting e-ticketing for some time in the USA. This makes it straightforward for e-ticketing to be implemented in international

markets on an 'as needed' basis, i.e. as needed by the airlines in each market. Worldspan simply records those segments within a PNR that are available for e-ticketing. However, although a physical ticket is not printed in advance for the customer, a pass is produced at the airport check-in that allows the traveller to go through security and customs. That just leaves the issue of how to provide the traveller with the 'conditions of carriage' as agreed by the world's airlines at the Warsaw Convention held several years ago. An issue that has yet to be resolved satisfactorily.

- *Satellite ticket printing (STP) and WorldSTP* This allows reservations made in one location, e.g. a travel agency, to be queued for ticketing at another, e.g. the customer's own office. In fact this can be done across international geographical boundaries, which in Europe is particularly important. At the remote location, e.g. the customer's office, the only actions required are to: (a) dial into the Worldspan network, and (b) enter a couple of command entries to verify the IATA licence number. No in-depth knowledge of how to use Worldspan is required at the ticketing location. The ticket printers used are the TI810 or TI830.
- **Other information systems** There are many other information related functions supported by the Worldspan GDS. Examples include HELP, which covers Worldspan entries, functions and current formats. The INFO topic provides users with explanations of Worldspan functions in a clear and easy to understand language. Finally, there is the Global Reference System (GRS), which provides a virtual encyclopaedia of information topics, including:
 - *Worldspan Travel Suppliers (WTS)* This provides product information and educational services related to the travel industry. Examples include theatre tickets, travel insurance, rail information, cruises and tours.
 - *Vacation Source by Travel File* This allows users to interrogate the Worldspan data base using simple fill-in screen templates and thereby retrieve information on a variety of subjects.

- *TIMATIC* Worldspan's electronic version of the renowned travel information manual providing details on subjects ranging from health to visas as well as many other important facts essential to international travel.
- *Travel Guides* This provides the user with tourist information on specific countries.
- *Taxes* A complete list of taxes that are applicable to airline travel may be retrieved and displayed by country.
- *Computer-Based Instruction (CBI)* A comprehensive self-tutorial program for all Worldspan functionality.
- *Worldspan Indexing* An indexing system that allows users to access any topic in the Worldspan system rapidly, e.g. GET-SHOW provides the user with details of theatre services world-wide.

Worldspan's client functions

The users of Worldspan are invariably travel agents. They use their workstations (Fig. 4.18), usually called client PCs, to connect into the Worldspan network by means of several different gateway protocols. But, more on the gateway later. Let's first of all consider the client PCs, each of which is connected into the Worldspan distribution network by several gateway software products. These client PCs run on a variety of platforms, i.e. different operating systems, and use special Worldspan control software to deliver customized end-user functions.

The first and most basic of these platforms was Microsoft DOS. Whereas the functions discussed in the previous section are supported on plain old dumb terminals connected to the Worldspan host main-frame computer, with DOS, clients functions could begin to be decentralized. Some functions were therefore added to the Worldspan DOS client when the PC began to replace dumb terminals in travel agencies. For example, there is the FareDeal capability. With FareDeal, fares negotiated by the travel agent may be stored within the Worldspan PC as a separate data base under direct user control. When a fare is highlighted, it may be converted easily into a booking by FareDeal with just a few key strokes required of the user. The booking is then ready for processing



Figure 4.18 A Worldspan workstation

by the Worldspan host system, which can then create a PNR. Worldspan FareDeal is, however, solely a DOS application.

It wasn't long before Microsoft Windows began to replace DOS as the most common GUI used by travel agents and other PC users around the world. Worldspan therefore developed a family of product enhancements that capitalized on Windows technology. The all embracing title for this suite of software is Worldspan for Windows and it operates within the Microsoft Windows 95 environment.

- **Worldspan for Windows** This version of the Worldspan software is fully compliant with all Microsoft standards and, for example, allows up to ten reservation screens to be accessible at any one time on a workstation. Worldspan for Windows also supports:
 - *An open application program interface (API)* This allows other companies' software products to interface with the Worldspan main-frame.

Examples include robotic programs that perform routine quality assurance checks, automatic low fare scanning systems, applications that make a set of different GDS screens look identical and interfaces to corporate computers.

- *ScriptPro* This is virtually a programming language that may be used to develop customized applications for end-user travel agents. The use of scripting to automate repetitive functions and keyboard entries can reduce errors and increase the speed of service. Travel agents can: (i) write the scripts themselves, (ii) receive consultancy advice from Worldspan on how to write scripts, or (iii) instruct Worldspan to develop customized scripts especially for them. A library of commonly used scripts now exists within Worldspan and users can adapt many of these for their own purposes.
- *Optional functions* Several added-value products are also available within the Worldspan for Windows 95 environment. The following are just a few examples of some optional applications: (i) E-mail – Worldspan for Windows includes licensed copies of Microsoft Mail (MS Mail) or intra-office e-mail (this, together with the scripting facility, makes a powerful tool-set for creating customized applications); and (ii) Compass – this is a management information function (Fig. 4.19) that provides travel agency executives with productivity statistics, charts and diagrams reflecting their business profiles on an immediate daily basis. Data can be viewed on screen, printed locally or exported to another software package for further analysis.

The PC that supports Worldspan for Windows can make use of several additional program function keys, known as Ready Keys. Once set up, the use of these keys can avoid repetitive entries and can invoke pre-defined scripts.

The client hardware that runs the Worldspan user application software, is supplied by IBM and comprises a Pentium 133 MHz processor with 16 Mb of RAM, a 1.2 Gb hard disk and a 1.44 Mb 3.5" floppy diskette drive. Other devices, such as CD-ROM drives and multimedia components, may be obtained as optional

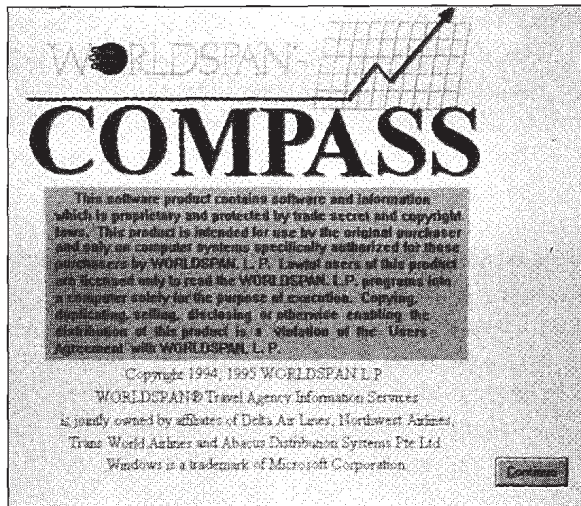


Figure 4.19 Worldspan Compass

extras. Worldspan recognizes that it needs to allow its users to keep pace with the rapid rate of technological developments. The specification of the Worldspan client workstations will therefore evolve as appropriate, so as to take full advantage of cost/performance developments in the world's future hardware and software markets.

Viewed from a regional perspective, there are over 17 different screen presentations that form part of the Worldspan for Windows client interface. However, many of these screen formats are customized for a particular market or country. This is a good illustration of the way in which Worldspan has customized its product offering to meet specific customer needs. Other additional products that are available for the Worldspan client environment are:

- **Commercial World** This is a product that has been around for some time and is aimed solely at corporate customers that have a relationship with a Worldspan travel agent. It provides corporate travellers who have their own lap-top computers with a user-friendly interface, albeit with limited functionality, to the Worldspan system. All bookings are queued to the travel agent who must then check the bookings and create the entries necessary to drive out tickets and related documentation.

- **ETravel** Worldspan is considering launching a new product in the UK called ETravel, which again is aimed at the corporate travel market. This product, which will replace Commercial World, comprises a set of software that runs on a business traveller's own lap-top computer. This can then be used by the traveller to dial-into the Worldspan network and make direct bookings. ETravel automatically ensures that these bookings comply with the company's travel policy and quality control requirements. The bookings, which automatically include all ticketing and related operational information, are then queued to a travel agent for processing. The significant difference with ETravel, however, is that virtually all the data entries and booking creation work have already been done by ETravel. Etravel may well also incorporate an expense management system for use by companies. This is a new product enhancement that is currently under consideration, i.e. as at the second quarter of 1997.
- **Quality Assurance** ScriptPro provides a high level programming capability that allows a travel agent to carry out quality assurance checks automatically on customer bookings. The quality control checks are developed using ScriptPro's high level scripting language, which is similar to Visual Basic and supports an open API. In this way, the travel agent's particular needs may be programmed into their Worldspan PC workstation. This product is also e-mail enabled; which means that when certain trigger events occur, an e-mail message may be generated automatically to alert the agent or customer to an unusual event requiring human intervention.

Worldspan's distribution network

As a result of several years of strategic growth, Worldspan now has a far reaching network that supports many leading communications protocols and is therefore able to support many different supplier systems. It is therefore important to review the Worldspan global telecommunications network in some detail because it is fundamental to so many of its current and future products. Figure 4.17 shows an overview of the Worldspan network,

which I will explain in terms of its constituent parts, reserving any discussion of the Internet related features for Chapter 5:

- **Branch network access** Many of Worldspan's customers operate their own LANs. In such cases, the LAN will use a PC, designated as the Worldspan gateway server, which connects into Worldspan's global telecommunications network using a variety of communication protocols. This server may connect into several Worldspan networks, each of which is specific to a certain type of application. Most major server operating systems are supported including DOS, Windows 3.11, Windows 95, Unix, Apple's MAC and AS/400's OS:
 - *Gateway Plus* The Worldspan Gateway software spans a very wide range of telecommunications interfaces, which allows the agent's server PC to talk to systems using protocols such as X25, IBM3270, IBM5250, VT100, Tandem and the Internet. Protocols that themselves include E-mail, Intranet, access to the World Wide Web and FTP. Also supported are videotex (see Chapter 6) and Ferry Source, a ferry information and reservations function.
 - *DialLink* For smaller users, who are ABTA and/or IATA travel agents, yet who cannot justify a leased data line, Worldspan offers the World DialLink service. This provides virtually all the major functions of Worldspan but without some of the more costly telecommunications overheads that are required for a high volume, fast response on-line system. All that is required is a PC and a suitable modem. Two modes of operation are available: (a) a user-friendly interface that can be used without prior specialized training; or (b) by-pass, which is faster but requires the user to have a higher level of knowledge of Worldspan command entries. Finally, a ticketing version of World DialLink is available to IATA licensed agents. This requires a dot-matrix ticket printer connected to the travel agent's PC.
- **Customer head-quarter services** Worldspan has been particularly successful in signing up several large multiple travel agencies in most

major markets. These multiples often have a requirement for their branch outlets to talk, not just to the GDS for booking services, but also to the company's in-house host computer at headquarters. This is particularly important for multiples that operate several branches across geographical boundaries. Worldspan's products for customers of this type are:

- *World Solutions* Under the banner World Solutions, Worldspan provides a pre-sales consultancy service to its customers. Some customers, particularly multiples and specialist non-air suppliers, often require secure links to many different types of host systems and branch networks. Such capabilities allow head offices to communicate with branches and non-air suppliers to connect into travel distribution companies. This has resulted in many unique solutions including Worldspan links to IBM 3090 main-frames, Amdahl, IBM RS/6000, IBM System 36/38 IBM AS/400 minicomputers, Apple Macintosh, Bull, Data General, Digital, Hitachi, NCR, Texas Instruments, Unisys, Zenith and open platforms running the Unix operating system. In many cases, the end results of these consultancy assignments are standard products that can be re-used by other Worldspan customers.
- *Worldspan Alliance* This allows a DOS PC using any one of several different communications protocols, to be supported over Worldspan's various networks. These include: the old airline telecommunications protocol (ALC), X25 (packet switching), IBM 3270, Frame Relay, Videotex and the ubiquitous dial-up. All protocols provide full access to the Worldspan host computer. In the USA, travel agents are connected into Worldspan via the AT&T ACCUNET service, which uses the high speed Frame Relay technology.

Each of these local networks connects into the Worldspan host system in Atlanta via high speed links provided by the world's major telecommunications companies. Worldspan uses AT&T, SITA, CompuServe and IBM to connect its international networks into the Atlanta host computer.

THE INFINI GDS

INFINI is the leading distribution system in the Japanese market. It is branded a CRS; but, theoretically, because it provides access to more than one airline system, it may be regarded as a GDS. It was established in 1990 as a joint venture between All Nippon Airways, which holds 60 per cent of the joint company, and the Singapore-based ABACUS distribution system, with 40 per cent. The resulting company is called INFINI Travel Information Inc. and it has almost 9,300 users in 6,300 agency locations. It was set up to provide the Japanese travel industry with an impartial, user-friendly computerized reservation system to link airlines with travel agents and the wider world of travel.

HDSs

The primary purpose of most HDS companies is to provide reservations and information services to travel agents via the 500,000 airline GDS terminals used in travel agencies throughout the world. However, this situation is changing rapidly at the present time, particularly as a result of the Internet. I'll discuss the Internet in more detail in Chapter 5 but for the moment, it is vital that first you understand the hotel distribution systems, the way in which they relate to the airline GDSs and how they work.

HDSs may be categorized as follows: (i) computer switches connecting a hotel's own in-house reservation system with the major GDSs for distribution purposes – a prime example of this type of industry switch is The Hotel Industry Switch Company (Thisco), and (ii) service companies providing smaller hotels with an outsourced marketing, reservations and distribution service, also with connections to airline GDSs – examples include Utell and Sahara. Both types of HDSs work closely with the world's GDSs to provide the hotel industry with automated sales and booking services. Each of these is explained in more detail below, starting with one of the leading hotel industry switches that is marketed by Pegasus Systems of the USA.

PEGASUS SYSTEMS

Pegasus Systems Inc. was created in 1995 as the parent of three important high-tech companies all of which are heavily involved in the world's hotel industry. The three companies are: (i) THISCO, (ii) the Hotel Clearing Corporation (HCC), and (iii) TravelWeb Inc. The parent company, which is located in Dallas, Texas, and which has an international head office in London, is owned by 15 of the world's largest hotel and travel companies (Fig. 4.20). In 1996 Pegasus sold US\$7.5 million in stock to an investment company called Trident Capital whose largest investor is Dun & Bradstreet. The proceeds from this private placement will be used to build and enhance the TravelWeb interactive travel reservations web site, develop new travel industry product lines/software and continue growing the Thisco and HCC businesses. All these companies have experienced a compound annual growth rate of 52 per cent. Not bad for a company with only 100 employees! It is therefore important that we consider the main products and services of Pegasus Systems, because they play such a key role in today's international travel industry. First of all, let's take what is perhaps the core business – Thisco.

Thisco

The principle aim of Thisco is to provide its hotel customers with a single and standardized interface to the world's GDSs. More specifically, the objectives of Thisco are to reduce the operating costs and increase the efficiency of the hotel reservations business, which is distributed via airline GDSs to travel agents and to consumers via TravelWeb – Thisco's Internet site (see TravelWeb in Chapter 5). But before we dive into a more detailed analysis of Thisco, it is worth reviewing the background to this leading global hotel distribution company.

Before the formation of Thisco, hotels that distributed their products to travel agents were required to connect their hotel inventory systems to each airline CRS (GDSs came much later). Most of the major hotel chains were connected to more than one of the world's leading CRSs (usually to at least four). This meant that the same messages containing the status of hotel rooms and other reservations information had to be formatted

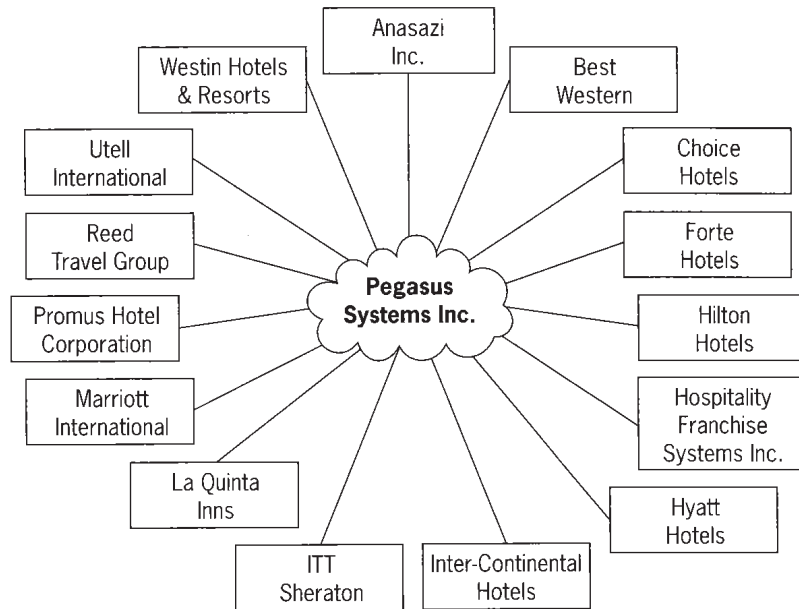


Figure 4.20 Shareholders of Pegasus Systems Inc. (as at 1997)

separately and sent to every CRS to which they were connected. Now because each CRS generally used a slightly different format for its computer interface, the hotels were having to convert their messages into the format used by each and every CRS to which they were connected, prior to transmission. This placed a heavy burden on the hotels' systems, both from a development and an ongoing operational viewpoint.

It also gave rise to inefficiencies in the booking process. At this early stage in the hotel distribution story, there were only two types of hotel to CRS connections: Type A and Type B. With the older Type B connections, booking messages were queued by CRSs before being delivered to travel agents. This meant that reservations could not be confirmed for several hours and this gave rise to multiple bookings for the same passenger followed by a high number of cancelled bookings. When Type A connections were developed, they helped the situation somewhat by using a more streamlined process that resulted in confirmations being received within 7 seconds. Although this went a long way to solving the early problems, it was not until much later when Seamless Connectivity was developed, that the hotel reservation process via the GDSs became a truly workable and efficient distribution method. Seamless connectivity provides the travel agent with a virtual direct channel to

the hotel's own reservation system computer. This enables the travel agent to use the hotel's computerized reservation system just as though the agent was connected to it by one of the hotel system's terminals. With seamless connectivity, the other switching systems, e.g. the airline CRSs or GDSs, are simply transparent communications channels that serve only to support the dialogue between the travel agent and the hotel's computer system.

In the late 1980s, many of the world's largest hotel companies in the USA realized that they needed to use advanced IT to provide accurate and rapid information on room availability, rates and confirmation numbers. In 1988 several leading hotel chains joined forces to form the Hotel and Booking Research Association. The association's first objective was to evaluate possible solutions to electronic hotel distribution opportunities. The outcome of this review was agreement that a common need existed among members for a communications switch that would link each hotel company's inventory control computer to point-of-sale distribution systems of the world. The required solution would support the development of a single interface linking each hotel system to the common switch. On the distribution side of the switch, a standard GDS link would be developed that could be shared by all hotel participants. Thisco was formed in 1988 when 15 major hotel companies,

including Utell International, Hyatt, Forte, Marriott, as well as most of the other leading hotel companies in the USA together with Murdoch Electronic Publishing (which later became the Reed Travel Group), agreed to invest in a hotel industry switching company.

The newly formed Thisco developed a computerized switch called Ultraswitch. The way this switch works is very much like a transparent link between the travel agent and the participating hotel. The switch has a supply and demand side. On the supply side, it connects to hotel inventory systems and translates their messages and commands into a standard Thisco format that is used for all processing within Ultraswitch. On the demand side, the Thisco switch communicates with all major GDSs using the proprietary message format of each one. In many ways the Ultraswitch computer acts as a sort of super-translator between the various hotel systems and the major GDSs. It provides full support for all GDS hotel functionality, including bookings, status messages, rate updates and seamless availability.

Ultraswitch now enables 70 hotel chains and 25,000 hotel properties to distribute their lodging products to more than 350,000 point-of-sale reservations screens in travel agencies throughout the world. Over the period 1990 to 1994 the volume of GDS bookings handled by Ultraswitch grew from one million to over eight million and by 1996 had reached 14 million. The switch now handles 40 million messages each month and the rate of growth is a compound 29 per cent. The system that makes all this possible is located in Phoenix, Arizona. Ultraswitch uses technology based on a scalable client/server computer running the UNIX operating system and a relational data base management system (RDMS). It uses high speed digital data circuits carrying between 56 and 64 kb/s of data and supports many different telecommunications protocols including SNA, X25, SLC and TCP/IP. Ultraswitch offers its users several products:

- **Ultraconnect** This is the basic reservations product that makes hotel reservations functions available to travel agents 24 hours a day, seven days per week. Ultraconnect uses Type A connection technology (see above), to link the

travel agency user with the hotel computer via the GDS and Ultraswitch networks. It enables a travel agent to complete a hotel booking via a GDS screen in less than 7 s. With Ultraconnect travel agents may book, cancel or modify reservations and obtain immediate confirmation and cancellation numbers direct from a hotel reservations system.

- *Stage 1* Travel agents make reservations via Ultraconnect in two stages. The first stage entails viewing static information screens that are displayed from information stored within the GDS used by the travel agent. This information is in fact created and loaded into the GDS by the hotel and then updated periodically to reflect changes. It includes data such as available properties, general information, available rooms and rates [see also Hotel Systems Support Services (HSSS) Limited later in this chapter].
- *Stage 2* Once the travel agent has selected a property for a customer, stage two commences. This involves the creation of a booking request entry by the travel agent, using the GDS terminal. The resulting reservations message is transmitted from the GDS, via the Ultraswitch to the hotel system. When the reservation message is received by the hotel system, it checks the required availability and sends a response back to the travel agent via the Ultraswitch and the GDS. This two-way message flow continues until either a booking is made or the travel agent signs-off, i.e. the transaction is ended. In those cases where a booking is made, the hotel system sends the travel agent a confirmation number that may be used to guarantee the room for his/her customer.

To connect to Ultraswitch a hotel must of course have its own in-house room inventory system. This must be able to support both on-line and teletype messages as well as being able to generate reservation responses automatically to GDS messages. The connection to Ultraswitch is made via one or more high speed telecommunication lines and a customized hotel interface that is developed by Thisco to run on its computer system.

- **UltraSelect** This provides travel agents with seamless connectivity to a hotel's own reservations computer, just as though the agent was connected directly to it. This is a critical differentiating factor from the approach used by Ultraconnect. With Ultraconnect, the dialogue is formatted by the GDS, which simply translates the hotel system's responses into its own on-screen display. These displays are constrained by the GDS's airline oriented technology. With UltraSelect, however, the GDS and Ultraswitch act simply as a communications channel connecting the travel agent directly to the hotel's own system. The display that the agent sees on his/her GDS screen is therefore exactly that which is formatted by the hotel system. In essence, UltraSelect replaces Stage 1, as described above.

– *Stage 1* So, instead of the travel agent searching the GDS information for a desired hotel property, room type and rate, the agent searches the UltraSelect data base that is stored within the Ultraswitch. This property information data base, which is maintained by the hotel systems in real-time, contains details on 70 chains with 25,000 properties and 2.3 million rooms. Information is recorded in two categories: (i) static, and (ii) status. Static information changes infrequently and includes the hotel's name, address, number of rooms, amenities, public facilities, transportation to/from the nearest airport and geographical referencing co-ordinates that pin-point the hotel on any map. Status information includes rates for the coming year and the availability of each rate during different periods.

– *Stage 2* Stage 2 involves the travel agent connecting to the hotel's system to make a reservation. The travel agent selects a hotel property in Ultraswitch and then directly accesses the hotel's computer system to obtain even more detailed information. For authorized travel agents, this includes access to specially negotiated rates that are stored within the hotel's own computer system. Finally, a booking can be made by the travel agent when a property, room and rate are found that match the customer's requirements.

One of the main advantages of UltraSelect, from a hotel's viewpoint, is that it gives the hotel direct control over the independent electronic marketing of its products. For instance, besides being able to display customized sales and marketing information about their properties and rooms, the hotels can also differentiate their products by means of full textual narrative instead of non-descriptive GDS codes. More complicated marketing opportunities are also possible, such as the selling of 'denials'. This involves a hotel system selling another hotel's rooms if the customer has denied the initial offering.

- **UltraRate** This product enables hotel reservation systems to deliver room rate information to GDSs electronically via the Ultraswitch. Prior to this product being available, staff within the hotel company manually entered rate changes directly into GDSs using computer terminals. This is a labour intensive task often requiring a dedicated member of staff whose only job it is to key this information into each and every GDS. Using UltraRate eliminates this manual effort, speeds up the entry of information and therefore increases the accuracy of hotel room rates shown by GDSs.
- **EasyView** This product is similar in concept to UltraRate. However, whereas UltraRate addresses the problem of updating room rate information, EasyView addresses the static information problem. Thisco's participating hotels must update their static information, which is repetitively stored in several GDSs, on a periodic basis. This information is in many cases manually keyed by hotel staff directly into each GDS. With EasyView the hotel can use its own Windows-based PC to update static information on all GDSs. The hotel's PC stores the static information in a standard format on a local data base. EasyView allows the hotel to interface to each GDS and to then re-format the static data as required.
- **UltraRes** This is a product that supports the processing of large blocks of rooms for hotels. Conventions, visitors bureaus and wholesale tour operators traditionally communicate their bookings to hotels via fax, mail or telephone.

This can often lead to inaccurate and delayed information being received by the hotel. With UltraRes the booking source can transmit block booking requests to the hotel via special entries made using a GDS.

Thisco provides a complete service to its hotel participants. This includes project management during the interconnection stages of a hotel becoming connected to the Ultraswitch and ongoing account management. Thisco also continually reviews alternative distribution systems for its hotel customers. One good example of such an alternative is the Internet. Thisco's tailor-made product for this purpose is called TravelWeb and this is described in more detail in Chapter 5. Another is the commission administration system called HCC, which is included under the heading of Financial Services in Chapter 7.

UTELL

Utell's services are aimed primarily at hotels that do not have their own large sales and marketing organizations or an internal central reservations computer. So, while a hotel may have its own PMS for internal operational purposes, this may not be sufficiently large or sophisticated enough to link directly into the Thisco switch (see above). These types of hotels need the support of a company that can market their services to travel agents and other sellers around the world while also providing an automated booking function. In effect, a company to which they can outsource their marketing and booking functions. Utell provides these hotels with just such a service.

Utell therefore provides smaller hotel chains and hotels with reservations facilities using Utell computers. This can be a great advantage to a small 50 room hotel in a resort area, especially when one considers that the Utell screen displays are all neutral. The sequence of the hotels displayed in response to an availability enquiry is purely rate-descending order within a city; and via the GDSs, the sequence of display is entirely random so as to eliminate any possible bias. A small hotel is therefore competing on a level playing field along with the giants of the industry.

Utell is now the world's largest hotel marketing and reservations company. It represents more than 6,500 hotels offering 1.25 million rooms in more than 180 countries. It also represents a wide range of hotels of many types, including for instance: budget properties, deluxe resorts, city centre locations, hotels in holiday areas, major international brands and independent hotels. It handled 3.5 million hotel reservations in 1996, which generated over US\$1.4 billion in room reservations revenue. Utell's strategic objective is to grow this level of business to 22 million reservations by the year 2000. In order to achieve this high rate of growth, Utell will rely heavily on enhancing the company's underlying customer servicing infrastructure. This means delivering improved technology, encouraging marketing innovation, developing new systems and introducing new products. Quite a challenge. So, let's take a closer look at the company, the technology it currently uses and the future developments it plans to initiate. First of all, it is important to know something about the origins of the company and how it is structured.

Utell's origins and company structure

Utell International is a part of the Reed Travel Group and a member of the Reed Elsevier plc group. However, the company has its origins back in 1930 when Henry Utell, a travel journalist living in the USA, formed the company. Through his experience of international travel, Henry Utell soon became aware of the need for a global hotel sales and reservations service. In order to help fellow travellers, Henry created Utell International in 1930 with just two hotels. The business thrived and grew.

Utell Inc., as it was known by 1972, was bought out by Grand Metropolitan Hotels and in 1974 Utell International (UK) Ltd was formed. In 1976 a computerized reservations system was developed and implemented. The company rapidly expanded to represent 1,800 hotels in 1978. Then in October 1982 five directors of Utell International acquired the whole of the issued share capital from Grand Metropolitan plc making Utell International a private company again after having been a wholly owned subsidiary of Grand

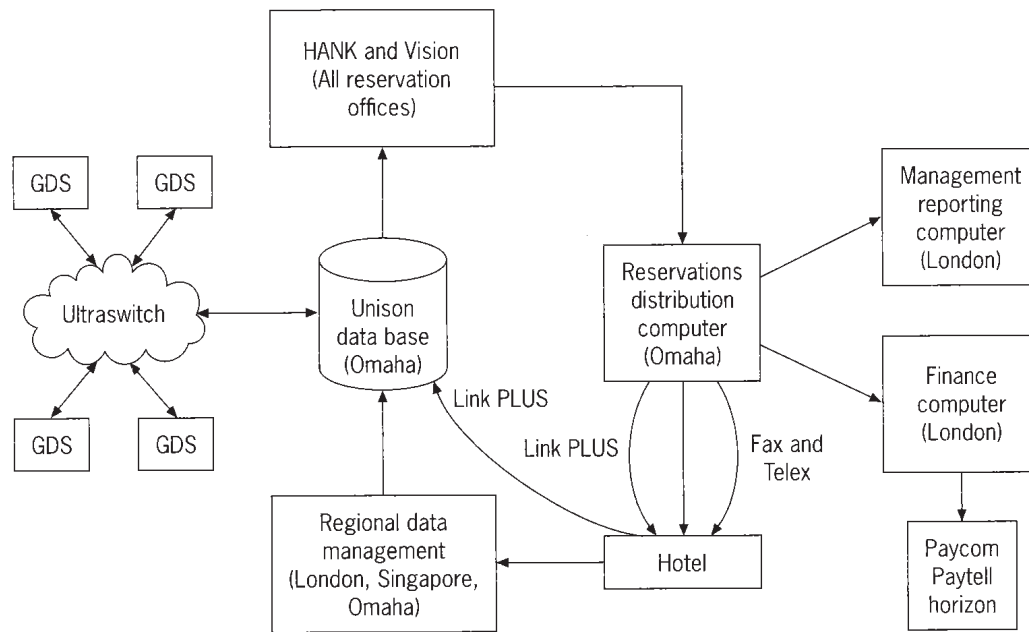


Figure 4.21 The pre-April 1997 Utell network

Metropolitan for ten years. The company continued to expand and besides enhancing its computer system still further, in April 1986 it opened a new US\$3 million reservations centre in Omaha, Nebraska. Then in April 1987, Murdoch Magazines, a subsidiary of News America Inc. bought Utell International. Finally, in June 1989, Reed International (now renamed Reed Elsevier), the UK's largest publishing and information company, acquired Utell International.

Today, Utell International (Fig. 4.21) is an integrated part of the Reed Travel Group, which also owns OAG and ABC Corporate Services. Utell International has its corporate headquarters in London and is organized into three regional divisions: (i) North and Latin America, with a regional headquarters in Omaha; (ii) Europe, the Middle East and Africa, with a regional headquarters in London; and (iii) Asia Pacific with a regional office in Singapore. These divisions look after all aspects of Utell International's business in each region, which in total comprises 6,500 member hotels in over 180 countries.

It can clearly be seen that over the last 31 years Utell has been building a strong relationship with both hoteliers and travel agents. The company has increased reservations for member hotels steadily

and has worked towards providing a reliable and comprehensive service to travel agents throughout the world. It has a strategic business plan that encompasses challenging growth objective, as already stated. The success of this growth will depend to a large extent upon the technology used by Utell to operate and distribute hotel marketing and booking services to sellers around the world.

Utell's current core system

The Utell reservations system has been developed over a number of years. It comprises an IT architecture that uses a central data base called Unison, a network of reservations offices supported by the Hotels Automated Network Know-how (HANK) system and a telecommunications network linking Unison to hotels, the Thisco switch and all four of the world's major GDSs. Let's take each one of these components in turn.

Unison – the central data base

This is the hub of Utell's reservation system. It is a large computer data base facility located in Omaha, Nebraska. It stores all property information on member hotels and is constantly updated

by regional computers in London and Singapore. Between them, these computers support all 52 Utell reservations centres around the world.

The Unison system supports two main functions: (a) hotel bookings and international yield management, and (b) full management information allowing hotels to control and direct their sales efforts. The system also incorporates features such as multi-level availability and rates, information and availability on packages, ability to sell different rates in different countries (or different GDSs) and to different travel agents, full management information (including full analysis on actual business, plus business denied for whatever reason).

The Unison system is connected to three types of users: (i) participating hotel customers, (ii) Utell International reservations offices around the world, and (iii) each of the world's four major airline backed GDSs. Let's explore each of these players in a little more detail:

- **Participating hotel customers** In order to provide fast and accurate hotel reservation system functions to the hotel industry, good clean data are essential. When new hotels join Utell, they need to provide information on their precise location, classification, size, facilities, rooms, rates and availability. This data is supplied to the nearest Utell regional computer centre by participating hotels via either manual or automatic methods. Once received and checked, the data are used to update the central Unison data base that resides in Omaha (see above). Many participating hotels use computer terminals with direct access to Utell in order to enter their update data themselves. This facility is known as LinkPLUS.

Utell LinkPLUS was launched in 1986 to provide direct access between participating hoteliers and Utell's computer network. The link allows hoteliers to control their own rates and availability from their own front offices or central head office. Hotels can update availability and rates information directly and receive reservation messages direct from Utell electronically. It comprises two parts:

1. Hotel PC and special software – the PC is installed within the hotel, e.g. either on the front desk of the hotel or, in the case

of multiple property chains, in the chain's head office. This PC is linked to Unison by a data line that allows it to support two-way communications. It can, for example, download reservations messages and other e-mail from Unison and upload hotel rates and availability status responses to Utell from the hotel.

2. Utell interface program – This is a piece of specially developed software that runs on each regional computer. Its primary purpose is to support the link to the hotel's LinkPLUS PC and allow it to update the Unison data base.

In the absence of a PMS, LinkPLUS can provide a hotel with an enhanced degree of integrity over reservation messages while also enhancing the degree of control over its inventory as recorded in Utell's central Unison data base.

In order to participate in the Utell system, hotels must first supply a great deal of detailed information about their properties, services, amenities, rates and capacity. In addition to supplying this information to Utell, a hotel wishing also to participate in the GDS distribution service must additionally build a presence within each GDS. This is a somewhat lengthy process although it is co-ordinated fully by Utell, and only needs to be done once during initial set-up.

- **Reservations offices** Utell International operates a network of reservations offices that has been created with the sole purpose of receiving hotel bookings via the telephone. Reservations operators in each of the 52 world-wide offices use a computer system called HANK, to support voice reservations functions and link to the central Unison system. While HANK handles the front-end incoming reservations functions, the link to Unison provides full access to the central data base of hotel information. Because the HANK system is, however, limited in the information that it can display, an enhancement called UtellVision is available to participating hotels:

– *UtellVision* This product was launched in 1988 and provided additional support for Utell's reservations staff incorporating enhanced electronic colour pictures, mapping

and search criteria. Its aim is to increase the product knowledge of Utell reservations agents. Each reservations operator uses two VDU screens as part of the reservations process. The top screen displays television quality pictures showing detailed city maps, and the bottom screen provides on-line hotel data and booking facilities.

When an operator selects a particular hotel during the booking process, they use the bottom screen to access the Unison data base via HANK. When the hotel's details have been retrieved from Unison, HANK transmits a command to the PC controlling the upper terminal. This enables the UtellVision PC to retrieve graphical data automatically on the requested hotel. These images are stored on laser disks and are updated once each quarter. Participation in UtellVision is an optional extra cost for hotels although the selling opportunities are significant.

- **Airline backed GDSs** The Utell system is distributed to travel agents using GDS terminals via the THISCO Ultraswitch (see above for more information on Ultraswitch), in which Utell has a share-holding. Utell International connects 3,500 of its hotel members to GDSs that distribute their products to a total of 500,000 travel agency terminals world-wide. Utell is available via Amadeus (System One), Galileo (Apollo), Sabre and Worldspan. Travel agents use these GDSs primarily to book hotel accommodation for their business travel customers.

The Utell International hotel reservations system is also connected directly into every other major national airline and third-party hotel reservation system, including JAL Axess and Transnet in Japan, BookHotel in Scandinavia, HRS in Germany, HotelSpace in the UK and Sita Sahara throughout the rest of the world. Additionally, Utell is the only non-hotel operator to be a member of Ultraswitch, which is located in the USA (see Thisco above).

Some of these GDSs have their own branded name for their hotel reservations service. Take Galileo for example, into which Utell is itself connected as a host system. Galileo's own RoomMaster hotel reservation capability offers

users some of the larger hotel chains as directly connected hosts. This means that a travel agent can opt to use a specific hotel chain's computer reservation system to make a booking. Now some of these hotels are also included in the Utell data base. To avoid confusion, those hotels that have a direct connection from their reservations computer directly into Galileo are not accessible via the Utell gateway on Galileo (this used to be known as the Utell partition within the old Travicom system, which has now been superseded by Galileo UK). A hotel can therefore only be accessed on Galileo UK through a single channel only. This explains why it is that Utell on Galileo offers just over 4,000 hotels out of the global total of 6,500. It is because the other 2,500 are available on Galileo UK as directly connected host systems. A similar situation exists on Sabre, which has its own SHAARP PLUS hotel reservation capability that is comparable to Galileo UK's RoomMaster as outlined above. However, it must be stressed that HotelSpace on Galileo UK is purely a UK product.

The GDS language that travel agents need to use to access Utell's HotelSpace tends to be somewhat complex. Now a GDS language is not the most user-friendly dialogue at the best of times, so you might wonder why it is made more difficult for hotel reservation purposes. The reason is that GDSs were designed initially for airlines and are beginning to run out of codes for non-airline systems. Most of the easy to remember codes have been used up in the core airline reservation language of the GDS. So, the codes left over to use for hotel reservations are limited and result in entries that are only just a bit better than Egyptian hieroglyphics. Still, they are quick to use once committed to memory.

Other Utell International services

The preceding section provides an overview of the core technology that is used to provide Utell International's services to customers and users around the world. The full range of these services is too great for inclusion in this book in detail. However, there are certain services and functions

that are worth exploring in a little more depth because they have a direct bearing on the subject of IT in travel and tourism.

Private Label

What is not quite so well known is that Utell also provides hotel booking services to hotels under the hotels own name. This is called the Private Label service. Take, for example, Thistle Hotels. Utell International provides a reservations service that is badged or branded Thistle Hotels. The service covers voice support for reservations as well as distribution via CRSs and other systems. When the travel agent calls the Thistle Hotels' telephone number, they hear something like 'Hello, Thistle Hotels, how may I help?' In terms of connections to CRS systems, there will be a dedicated Thistle Hotels' data line that will in fact come from the nearest Utell network node. In other words the service appears just as though it was being run by Thistle Hotels itself. This is becoming more and more attractive to hotel groups as they strive to concentrate on their core business, which is after all running a profitable hotel business and not operating complex booking computers and manning reservation centres at all hours. There are many other similar examples, including the Private Label Voice service operated on behalf of Summit International Hotels.

GDS participation

Utell's interface with Thicso means that all bookings are transferred automatically from the airline systems directly into Utell's Unison database for immediate distribution to hotels 24 hours a day 365 days a year. This not only virtually eliminates any chance of human error but also contributes to the speed of distribution between Utell and its member hotels.

Utell handles reservations on a kind of sophisticated sell and report basis. The way it works is something like this. A travel agent uses the Utell system via one of its many distribution networks, be it via a GDS, videotex or voice. A reservation is made in the Utell system and a booking record is created. Then within 7 seconds, the travel-agent user will be provided with a confirmation of the reservation and a confirmation number, just like an airline PNR locator. As a result of this, the Utell

system sends a message to the hotel concerned. In the case of hotel reservations, the communication of the reservation message from Utell to the hotel is sent by one of several methods, which may be either: (a) telex or fax, (b) directly into a PMS without human intervention, or (c) via LinkPLUS directly into a hotel's PC. Because the delivery of this message is so critical, let me explain each of these methods in more detail.

- **Telex or fax** These methods are well known but suffer from the vagaries of human intervention in the form of a person who must take a piece of paper and ensure the hotel records are aware of the booking. Inevitably, some of these pieces of paper are mislaid and the old 'no reservation on arrival' problem rears its ugly head. This is not a problem with Utell. This is because in order to participate in the Utell system, the hotel is required contractually to honour every Utell reservation, even if fully booked. So, provided the hotel has not previously sent a 'full up' message to Utell, then a reservation made via the system must be honoured. If the hotel does not have the room, it is responsible for finding a hotel of a comparable standard that can accommodate the customer.
- **PMS link** The reservations messages are sent via a communications link between Utell's nearest regional computer and the participating hotel. With this kind of direct link there is little room for messages to go astray and it is by far the best method that a hotel can use to communicate with Utell. However, not all hotels have a PMS and even if they do, they are not always capable of connecting to an external system such as Utell.
- **LinkPLUS** This is a dedicated system to system link, which is explained in more detail above under the topic of Unison's participating hotels and their interconnection methods.

Utell monitors the participating hotels very tightly. First, it has the means to trace and prove delivery of a reservation message to a hotel; and second, it keeps a record of all such misdemeanours made by a hotel and can thus formulate a list of repeat offenders. These delinquents are penalized at first, but if they continue to abuse the system then they are asked to cease using the service by Utell (in

other words they are forcibly removed from the Utell system).

Marketing support programmes

There are many other services that are provided to participating hotels by Utell International. Besides reservations and training services, several important GDS marketing products are available to Utell hotel subscribers. These include products like: (a) Sign-ins – this allows a hotel's promotional message to be displayed on the travel agent's GDS terminal when it is activated; (b) Point-of-Sale Message – these messages appear on a travel agent's GDS terminal when a transaction relevant to a certain pre-set destination information is entered, e.g. when an agent books a flight to Paris the GDS screen will show a promotional message on Paris hotels; and (c) Electronic Mailshot – a message of up to 18 lines that may be sent to Amadeus terminal users whenever a queue is accessed.

Financial services

One of the historical problems experienced by travel agents has been the collection of commissions on hotel bookings. In the past this has been a major deterrent that has suppressed hotel sales by travel agents. However, Utell International has a solution to this problem in the form of two products: Paytell and Paycom. These services are described in more detail in Chapter 7 in the section on financial services.

Travel agency services

If one considers all hotel bookings made from all sources around the globe, only between 28 and 30 per cent are generated by travel agents. The remainder come from direct bookings from consumers and companies. Of all reservations handled by Utell, 98 per cent are generated by travel agents. The remaining 2 per cent come from customers directly, although Utell has not solicited business actively from end-user customers to-date. In the UK, 40 per cent of all bookings are obtained from automated systems. This is considered quite a high level in comparison with other countries, excluding the USA, which has a far higher volume of automated hotel bookings than most other countries. Automated systems in this context include videotex systems as well as the GDSs.

We can draw two conclusions from these statistics: (a) there is a significant opportunity for the travel agency sector to increase the volume of their hotel bookings and the associated revenue stream significantly, and (b) there is an untapped opportunity for Utell to market its hotel services direct to consumers via the Internet or some other direct marketing channel. Well, I discuss the Internet in more detail in Chapter 5. So, for the moment, let's focus on the opportunities for travel agents to increase their volume of automated hotel bookings via Utell International.

First, an important point; the Utell hotel reservations service is provided free of charge to travel agents. Utell International is able to do this because it is paid by member hotels to represent and market them world-wide. This payment is made as both a fixed cost membership charge and a volume related transaction fee that is similar to the way GDSs derive their revenue. The hotels are quite happy with this arrangement because for them to do all their own distribution and operate their own reservations departments would cost them a lot of money. Of course travel agents are pleased to have access to such a sophisticated hotel booking facility at no cost to themselves.

- **Travel agent terminals** As a general rule, Utell does not support the direct connection of individual travel agents to its own reservations computer. In other words, individual travel agents cannot approach Utell and ask for one of their terminals to be installed in their travel agency. The reason for this is that Utell does not wish to have the overhead and the ongoing support functions that go hand in hand with running a large network of directly connected travel agency terminals. Far better to use existing terminal networks, such as the airline GDSs. Also, from the travel agent's viewpoint, desk space is a premium. So if yet another terminal was installed in the travel agency alongside the GDS and videotex ones already in place, the agent would begin to run out of counter area. So, instead of running its own network, Utell International is distributed via other travel industry distribution channels. These include airline CRSs, videotex networks, the Internet, other national airline systems and third-party reservations systems world-wide.

- **Central reservations units (CRUs)** However, despite the above, Utell is nevertheless also connected into many of the high volume major travel companies' own automated systems, i.e. third-party business. These third-party companies comprise several multiple travel agencies and some hotel booking specialists. For example, many of the larger multiple travel agents in Europe and Asia Pacific have created their own specialized internal hotel units called central reservations units (CRUs). These units handle hotel reservations on behalf of their branch network centrally on a service basis. Utell allows these CRUs to have dedicated terminals installed for direct access to Unison.
- **Rates** Utell supports the many different types of rates that travel agents need to access. Preferred and negotiated rates are assigned by a hotel either: (a) to a large multiple travel agency chain, or (b) to a specific company whose business travel is handled by a certain travel agent. This company or travel agent may access a specially segregated part of the Unison data base that contains the customer's preferred hotel rates. Similar rates may be held for government departments and other categories of customer.

This rather sophisticated capability is called Defined Viewership (also known as Multi-Rate Access). It provides personalized views of hotel rates for each travel-agency user. With Defined Viewership travel agents have access to the preferred and negotiated rates specified by the agent. So, when a particular hotel is being viewed for reservation purposes by a travel agent and the rates are requested to be displayed, they will show the negotiated or preferred rates. Other travel agents would not, however, be able to view these rates. They are held on Unison in something like a closed user group (CUG). The only type of rate not displayed is a net/net rate for which no commission is payable.

The hotel reservation services provided by Utell International and the related products that are designed for travel agents are sophisticated tools that if used properly can significantly increase revenues. There is a substantial untapped source

of extra revenue for travel agents in the area of hotel bookings for their customers.

Utell International's new systems

Utell International has experienced a growth of more than 100 per cent in reservations volume over the past four years. Looking to the future, its strategic plan calls for the generation of over US\$2 billion in annual revenues for its hotel members by the year 2000. It is for these primary reasons that Utell has recently decided to invest over US\$24 million in enhancing and upgrading its IT infrastructure. As part of this overhaul, in October 1996 Utell International signed a software licensing and enhancement agreement with Anasazi Inc. This enables Utell to build a new state-of-the-art 'GDS-like' reservations and support system for its hotel customers. The basis for this is the Anasazi lodging enterprise system architecture (ALESA) product line. ALESA offers hotel companies a fully integrated technology solution including such functions as PMSs, guest history and recognition programmes, i.e. support for loyalty schemes, revenue management and an Internet capability. The resulting new systems will be implemented in two phases:

- **Phase 1** The creation of a new highly structured hotel information data base providing enhanced management of rates and availability information. This new information structure will be enhanced further by a new LinkPLUS system with improved functionality for hotel users. Also included in Phase 1 is the implementation of more flexible and efficient connections to GDSs. Migration of existing hotel customers to this new systems environment commenced in 1997.
- **Phase 2** The replacement of HANK with a new voice reservations processing system, including a new integrated version of UtellVision. This will be a Windows-based application that will be installed in all 52 reservations offices around the world. The new LinkPLUS system will be made available via the Internet. Further enhancements to Utell's GDS links will be made, which will feature a seamless availability function and better management information reporting via data warehousing techniques.

The new software will be capable of handling the complex data involved in marketing hotels in an increasingly competitive environment and providing far greater flexibility and responsiveness to customers. This ambitious IT programme will involve Utell upgrading many of its computer systems around the world. Communications network resources will also be upgraded and expanded to cope with new technology and higher transaction volumes. Utell is well aware of the potential for disruption during this major IT enhancement project. A progressive and phased implementation plan is therefore being carefully followed in every region.

Marketing on the GDSs

Much of what I am going to discuss here relates to the 200 or so hotel chains that use the GDSs to market their properties to travel agents. The GDSs are very powerful marketing vehicles because they reach one of the most underdeveloped areas for hotel sales. Yes, I am talking about travel agents. Travel agents generate less than 30 per cent of all hotel bookings and most of these are channelled via the GDSs; and because the GDSs distribute their terminals to these very same travel agents all around the world, any marketing opportunities supported by them offer great potential for increased hotel sales. By the way, most of these remarks also apply to car rental companies, which can also use the GDSs to market their products effectively to travel agents.

There are two important factors to understand within the GDS marketing world: (a) promotional or marketing messages can be sent by hotels to the point-of-sale screens of GDS users who are nearly all travel agents, and (b) hotels can use GDSs to aim their promotional efforts at a highly targeted section of the world's travel agency population. These are very attractive capabilities, which a hotel's marketing team can use to great effect. However, it is by no means a simple task. Each GDS stores its own set of its marketing information fields, which may be used in many different ways. The two most important of these are: (i) distributing static information that describes the hotel chain, its leading properties and features; and (ii) pushing dynamic information out to selected travel agency groups.

STATIC INFORMATION

The first of these, distributing static information, i.e. information which does not change very often, is a simple but effective means for hotels to communicate with travel agents at the point-of-sale. It involves storing information about the chain and its hotels in one or more GDSs:

- **Chain descriptions** This information can be quite descriptive because a number of pages may be used, depending upon how many pages the hotel wishes to rent from the GDS (each GDS makes a different number of pages available). Travel-agency GDS users may then access these pages by entering the appropriate hotel code. Most GDSs do not charge a fee to hotels that use this service, provided the number of pages used is reasonable.
- **Hotel descriptions** A limited number of lines of descriptive information may be created by the hotel in the GDS and stored in the data base under an index that uniquely identifies the hotel or its chain. As there is only a finite number of lines and a limited degree of flexibility, it is important that the hotel uses this facility carefully and wisely if it is to maximize its marketing exposure.

Most GDSs provide 'super indexes' which assist travel agents in finding the appropriate keyword used to identify the hotel. Very often the only way in which a hotel can publicize its static pages in a GDS is by direct mail, and other paper-based communications with the travel agent and by the judicious use of dynamic methods, as follows.

DYNAMIC INFORMATION

Distributing dynamic information is a more sophisticated technique. It capitalizes on the GDS's ability to profile its travel-agency users. This may be done by parameters that include whether the agency is part of a group, the geographical location of the agency and the type of booking that the agency makes. Consequently, there are a number of different ways in which dynamic marketing information can be communicated direct to selected travel agents:

- **Sign-on messages** Whenever specified groups of travel agents sign on to the GDS, they automatically receive a kind of 'welcome' screen. This welcome screen can display a marketing message that the hotel constructs. This is a useful facility but it only allows the hotel to get its marketing message across once or twice each day, depending upon how often the travel agent uses their GDS terminal. (The more technologically sophisticated travel agents do not, however, always see the GDS sign-on messages because their log-on functions are often automatically processed by front-end computer systems and communications networks.)
- **Bulletin boards** The hotel can create its own bulletin boards within the GDS for communication with travel agents. The hotel can post items on the board that may be current for the week. Travel agents may peruse the information on the hotel's bulletin board; which may, for example, include details of special offers at certain properties.
- **Headlines** This is the most sophisticated of the dynamic GDS marketing techniques. Whenever selected groups of travel agents enter a certain pre-determined city pair or a certain destination city, e.g. London/Paris, the GDS will automatically display a hotel's special promotion for the destination city. The travel agent can then book straight from the headline marketing message, which links the agent into the hotel's reservations function on the GDS. This can be a powerful way for a hotel to segment its market and aim products at specific sectors of its potential customer base.
- **Broadcast** With a broadcast message, the hotel has the opportunity to send a message to virtually every GDS terminal around the world during a fixed 15 minute time slot. This is particularly effective for creating an impact with travel agents in relation to a special announcement or the start of a major marketing campaign. This is akin to TV advertising when a specific time slot can be purchased by the hotel or car rental company. The message appears on every GDS terminal screen, whenever it is refreshed from the host GDS computer, which is usually every few seconds, as entries are made by users.

Dynamic information has been used to great effect by hotels and car rental companies that participate in the GDSs. It is particularly suitable for marketing purposes because: (a) the facility can be used over certain time periods that tie into promotional campaigns, and (b) the message gets straight through to the point-of-sale. Space is rented on the GDS data base for a fee that is usually time based, i.e. a cost per week, and also relates to the distribution coverage and size of message. Table 4.6 summarizes some of the main types of information display options (unless otherwise indicated, there are no additional costs for these entries).

There is no doubt that marketing via the GDSs is an excellent way for hotels and car rental companies to increase the sales of their products. Historically, there have been very few alternative distribution systems that allow a travel company's marketing message to be sent directly to the point-of-sale in travel agencies all around the world: the potential is there for a large increase in sales from travel agents. After all, if less than 30 per cent of hotel bookings originate from travel agents at present, it is highly likely that this could be grown to around the 80 per cent level. These are some of the reasons why GDS marketing is a relatively new and growing medium for the travel industry.

Hotel chains that participate in GDSs do, however, need to commit to keeping their information up-to-date. This commitment can involve a substantial amount of ongoing effort on the part of hotels. This is especially true if the chain has decided to participate in more than one GDS or even all four (individual hotels are not allowed by the GDSs to participate unless they are represented as part of a corporate group or brand). Each GDS must be updated with information such as property description, rates and promotions for every hotel property in the chain. Table 4.6 shows the kinds of marketing information that each of the four main GDSs allow hotels to store and distribute to travel agents; it is important to realize that this information is formatted in quite different ways by each GDS. While some of the larger hotel chains have on-line links between their CRSs and the GDS hotel data base, this is not always the case. It is not therefore surprising that some hotels and their chain parents, choose to outsource their GDS

Table 4.6 GDS marketing data summary

<i>Amadeus</i>	<i>Galileo</i>	<i>Sabre</i>	<i>Worldspan</i>
<p>Sign-in message Up to two lines of 60 characters each. Ordered by day. Chargeable (statistics available)</p> <p>Broadcast messages Up to 18 lines of 60 characters each. Ordered daily. Queued to terminal in one city, one country or a particular travel agency chain in one city or country. Chargeable (targeted receipt)</p> <p>Display messages Up to two lines of 60 characters tied to airport pairs of hotel's choice. Chargeable (statistics available)</p> <p>AIS pages Unlimited pages, each of 999 lines in free format (statistics available)</p>	<p>TD/News Page Introductory line of 32 characters then five lines of 55 characters. Displays for one week, Monday to Sunday. Agent has to request a TD/News Display (no statistics)</p> <p>Front page sign-in Up to three lines of 55 characters each then either direct to GIS page which can be up to 999 lines or to a HOD page. Ordered by day. Chargeable (statistics available)</p> <p>Brochure line in chain display Up to 63 characters. Displays each time a chain HOD requested (no statistics available)</p> <p>Chain information pages Many pages of 99 lines each available (no statistics available)</p> <p>Hotel information pages Many pages of 99 lines each available (no statistics available)</p> <p>Apollo headlines A new promotional opportunity where a hotel chain can purchase a two-line display that is brought up on any given day any time an agent requests an airline display for a certain city pairing, e.g. JFK-LHR</p>	<p>System Hot Up to three lines each of 56 characters. Displays for three days. Agent has to request SYSHOT display (no statistics provided)</p> <p>Sign-in advertising Up to two lines of 56 characters. Ordered daily. Chargeable (no statistics provided)</p> <p>Sabre DRS pages Up to 99 pages each with 99 lines of free format text (statistics available)</p>	<p>Associate Market Place Comprises three lines of 58 characters plus one extra line for page reference. Displays one to five days on request and is published Monday through Friday. The agent must request a GAMP display</p> <p>Associate of the week A week long promotion reserved on a first come first served basis. Receives top billing in AMP pages. One complimentary Prime SINE guaranteed</p> <p>Prime Sign Maximum of two lines of 60 characters. Accessed by agents when they sign-in. Chargeable</p> <p>GRS pages Up to 250 lines per page, each of 60 characters. Unlimited number of pages set up by Worldspan on an as-needed basis following usage of initial allocation</p>

data maintenance functions to third-party service companies.

HOTEL SYSTEMS SUPPORT SERVICES LIMITED (HSSS)

One such company is Hotel Systems Support Services Limited based in Wokingham. HSSS provides technology consultancy services to the hospitality industry and an ongoing GDS maintenance service for hotel chains, i.e. HSSS does not have any direct contact with individual hotel properties. Although similar services are offered by some hotel representation companies, these usually involve the hotel outsourcing both its reservations and data base management functions. However, HSSS provides hotels with a greater degree of flexibility. A hotel chain can, for example, outsource just those GDS data base management functions that involve the updating of hotel and chain description pages and the maintenance of rate information. Or a hotel can use HSSS on an *ad hoc* basis as and when the need arises, for example, to make a large scale update to its GDS data base.

Hotel chains send their GDS data base updates to HSSS in Wokingham from around the globe, usually by fax but increasingly by electronic mail via internal e-mail systems. Each GDS requires its descriptive information to be presented in a slightly different format and there are even some fields that are peculiar to specific GDS systems. HSSS provides hotels with a ten page generic data collection form that is then used by operators in the Wokingham office to update each GDS data base. These forms are nearly always used to create information for a new hotel but they may also be used for regular update purposes.

HSSS employs a number of staff, each of whom is expert in the way in which GDSs store and use hotel related information. The HSSS operator logs onto the first GDS and signs into the data maintenance function within the hotel data base area, using a password. Then the operator updates the GDS data base with the information provided by the hotel. This is an onerous task because the GDSs use only simple character based update and editing techniques that require each data line to be

changed individually. Once this has been done, the operator signs-on to the next GDS in which the hotel participates and repeats the data base update process. There can be dozens of rate changes for a hotel each day. HSSS has access to each of the four main GDSs and regularly maintains the data for 2,000 hotel/GDS combinations. However, many of HSSS's hotel customers use its services on a one-off or *ad hoc* basis. The *ad hoc* maintenance work can include such tasks as: (i) updating hotel descriptions when the accuracy has deteriorated over time; (ii) adding information when a GDS upgrades its system to allow more data fields to be stored; or (iii) loading new negotiated rates for use by travel agents and companies, which usually occurs at the end of each year, ready for access by GDS users the following year.

As already mentioned, information on rates and room types can be sent from the hotel to HSSS by fax or e-mail. However, it is now common practise to download this data direct from the hotel chain's CRS. These systems usually store the complete range of hotel rates on a central data base. Downloading them electronically via a dialled telecommunications link enables HSSS to carry out quality control checks on the updates prior to keying them into the GDSs. It allows HSSS to check that it is interpreting the updates in a way that is consistent with the chain's CRS. The same can apply to conversion tables for fields such as Room Types. A conversion table allows a hotel's room type code to be mapped to the GDS's room type code. For example, a hotel may designate a double room using the two letter code DB, whereas a GDS may use the code A1D to mean the same thing. HSSS can use these conversion tables to simplify the GDS update process.

The HSSS service can substantially reduce the amount of routine administrative functions that hotels face if they are to market and sell their products via the GDSs. This is especially true when you consider that the GDSs are enhancing their systems and adding new fields to their data bases almost continuously. Just to keep abreast of these format and field changes can be quite an administrative chore – certainly not one that should be at the heart of the hotel's core business.

The Internet

Introduction

This chapter deals with the Internet – possibly one of the most exciting developments in travel and tourism since the industry was invented. The omission of the Internet from the previous edition of this book illustrates how quickly it has become a major factor in travel. Only two or three years ago it was a fledgling technology used by a few scientists and some USA students for very specialized applications. Now, not only is it widely used within the travel and tourism fields to reach consumers, but more importantly it is perceived as one of the major influences affecting the travel industry of the future. Recent studies, for example, predict that 20 per cent of total bookings will be via the Internet within five years (*source*: Jose Tazon, Amadeus – at the Association of Corporate Travel Executives conference in Madrid). From a more general perspective, the US Government estimates that 20 per cent of all consumption will be transacted on the Internet within 20 years. There are currently over 50 million Internet users world-wide, over half of which are in the USA. The statistics for Europe are shown in Table 5.1.

I'm afraid that I do not include here any description of the Internet or the technologies that make it work. This would be an entire subject in itself and one that I could not possibly hope to even skim in this book. I therefore assume that you, the reader, understand the basic terminology and that you already know what an Intranet is, what a hyper-text mark-up language (HTML) is, what browsers are and basically how Internet telecommunications work. My analysis of the Internet

Table 5.1 Internet registrations in Europe (millions)

European Country	Actual 1996	Forecast 2000
Britain	2.40	10.00
Germany	2.00	6.90
France	0.30	1.20
Italy	0.20	1.00
Netherlands	0.20	1.10
Sweden	0.16	1.10
Denmark	0.08	0.80
Norway	0.10	0.40
Finland	0.14	0.40
Belgium	0.30	0.40

(Source: IHBRP, Inteco Corp, 1997)

in this chapter is very much viewed from the perspective of how it is *used* within the field of travel and tourism. I therefore do not explore the more esoteric technological aspects in any detail at all. After all, it's how the Internet is used that I think is most germane to this book's audience.

The chapter starts off with an analysis of the marketing aspects of the Internet. Then goes on to discuss one of the biggest single issues facing the industry at present – disintermediation. Following this, I analyse the various ways that some companies are using the Internet at present. Included here are descriptions of several leading Internet sites that have already established themselves in the global travel and tourism industries. Finally, I have included several examples of some particularly interesting Internet pages within each section. But please note that these pages are in

fact 'screen shots' and that they do not show a complete Internet page. Most Internet pages are in fact too large to fit on a single screen and rely on vertical scrolling functions supported by most browser software. Nevertheless, I hope they give you a flavour of what functions and information are available on travel and tourism via the World Wide Web.

Marketing on the Internet

In my view, the Internet is an almost pure manifestation of marketing principles and practices. It is a marketing person's dream because: (a) it levels the playing fields, (b) it enables companies of different sizes to compete on more equal terms, and (c) it allows a company to open up a direct channel of communication with its customers. What's more, the success of an Internet site is not always directly proportional to the amount of money spent on designing it. We are all no doubt aware that the success of an advertising or promotional campaign depends very much on the amount of money spent on media advertising. This is because the company must broadcast its message to everyone, or at least a very large proportion of the population, in order to reach its desired target market. The amounts spent by large companies on television advertising, bill boards and the press are enormous. By contrast, smaller companies cannot afford such massive exposure and consequently their products do not become so well known.

However, with the Internet this is not necessarily the case. Companies of all sizes are much more equal in their competition for the consumer's attention. The main reason for this is that the pages that comprise one company's Internet site can be available to the same population of consumers as another company's site, yet without any significant additional amounts of expenditure. It is not quite so easy for a large company to throw money at their Internet site and as a result, expect it to be visited by vastly increased numbers of consumers. What is happening in the new electronic marketing world of the Internet is much more subtle. A whole new approach to sales and marketing is

evolving. It remains to be seen precisely how this will crystallize into a tried and proven methodology, because the technology is so young and consumer reactions have yet to be measured accurately. So, everyone is learning the hard way – lots of experimentation mixed with liberal amounts of trial and error.

But first of all, let's get the relative size and importance of this new channel into perspective. Because the Internet is the focus of my marketing analysis, let's first of all consider what types of people use it and what its potential is. The current profile of a typical Internet user is remarkably consistent with that of a profitable potential travel customer. They tend to have a high level of disposable income and are in the 25–35 age group. Research shows that many Internet users are affluent and experienced travellers and this sounds just like the target market of many travel agents and suppliers. At the moment, over three million European homes have Internet access or subscriptions to on-line services, e.g. Compuserve and America On-Line (AOL). This figure is estimated to double over the next two years. Forrester Research believes that Web generated global sales will rise from US\$2 billion in 1996 to US\$61 billion in the year 2000. Forrester also predicts that the top three sectors for on-line shopping will be: (i) computer products, (ii) travel, and (iii) entertainment. (Forrester Research is a major research and consultancy organization that has carried out extensive Internet analyses).

Clearly, therefore, the Internet represents a significant new opportunity for a company to distribute its products and services direct to consumers. But in order to do this well, a good marketing campaign will be needed. The question is: 'How should a company's products and services be marketed to consumers via the Internet?' The problem is, there appears to be a lack of any established methodologies for successful Internet marketing. But despite this, it does seem that a set of critical success factors are beginning to be distilled. They are probably best described in terms of an evolutionary approach that several companies have taken towards the development of their marketing strategy for the Internet. The first of these, not surprisingly, is to establish a corporate presence on the World Wide Web.

WEB SITE PRESENCE

The first and most basic commitment that a company can make to the Internet is the establishment of its own Web site. Although many companies have taken this first step, it can be more complex than it seems at first glance. To start with, there are some fundamental issues to be resolved, such as: should the site be created and maintained in-house using the company's own computer or should it be outsourced to a local computer service bureau? Companies sometimes start by establishing a Web presence on a bureau basis and then, depending upon its success, move the Web site operation in-house. Having said this, there are a lot of companies that are perfectly happy with an outsourced solution to their Web presence. After all, unless the company has a cost effective in-house IT department, the expense of creating a Web site and coping with ever-changing Internet technology can be significant.

Another important decision is the establishment of a memorable name for the site. Site names are important because they need to be memorized easily by the consumer and they obviously need to represent a natural link to the name of the supplier company. Once established, they cannot be easily copied, or for that matter changed. Having established a site name or unique reference locator (URL), the next step is to design a home page. Again, this is no simple task. A home page needs to be attractive and must provide links to other parts of the site and to other related sites. Incidentally, it is quite possible that advertising fee income can be generated if a company's Web site incorporates links to other sites. It usually incorporates some form of main menu, but not in the sense of the old classical computer application. An Internet main menu is much more intuitive and user-friendly. It often involves graphics, sound and animation, as well as text. The problem is: 'How should a home page be designed so that it supports today's site visits, yet allows the remainder of the site and its other pages to grow and develop over time?' Well, the answer is that of course the remainder of the site must be designed at least in concept before the home page can be completed. However, this is easier said than done, especially when the site is expected to

evolve and therefore change over the short term as more content and new sections are added.

Design is a critical aspect of any Web site; and design is not just about information content and layout. It is very much about the visual effect of Web site pages as they appear on computer screens. The Internet Web site design process is certainly not confined to computer programmers. It is a new skill that is best undertaken by graphic designers and creative artists who work in the advertising, publishing, marketing and corporate communications businesses. After all, if the pages are to be effective and have impact they need to be produced by the kind of people who design brochures, magazines, logos and advertisements. This is a specialist field and is not one in which either travel companies, tourism organizations or IT departments are known to excel. To get the best Web site design, an outside agency is probably the best approach. There are now many companies that provide these services, including the Internet providers themselves, and the only issue is how to decide the best and most appropriate one.

An important feature of the home page is the site owner's e-mail address. This is vital in order to begin the development of a rapport with the consumers that comprise the company's target market. It is here that the company will need to make its second major commitment to the Internet. If it is to publish its e-mail address then it must expect to answer incoming e-mail from site visitors. Again, this is easier said than done. As the Internet is a global medium, e-mail can be expected from virtually anywhere in the world; and they will come from a very wide range of people too. Students, casual browsers and serious customers are all potential sources of e-mail. The challenge is to weed out the serious customers yet maintain a reputation for all round good customer service. So, to develop a site successfully, it is very important that all e-mail is filtered and answered within a certain period of time. This is often implemented via a quality control measure that companies with successful Web sites embed within their employee work practices. This brings us to one of the golden rules of Internet marketing; develop a good communications channel that establishes a dialogue between your company and its consumers. The next steps are: (a) increase the

number of site visitors, and (b) turn site visitors into buyers of the company's products and services; in other words, increase sales.

An essential way of increasing Web site visitors is to advertise the site. This can of course be accomplished by means of standard paper-based advertising and promotion, e.g. specialist Internet magazines and 'Whats On' publications. But there is an alternative electronic way to achieve the same thing. This is by establishing hyper-links from other Web sites to your own. Again, it's all pure marketing. The company needs to research other companies that have a Web site and select those with whom a strategic relationship exists. In fact, no such relationship might exist at present because the other company is in an entirely different field of business. However, new relationships can be established by finding new inter-relationships between a company's products and those offered by other companies. Establishing hyper-links from other successful sites to your own is absolutely essential if your site visits are to be maximized.

Another way to increase site visitors and attract new customers is to make use of the Internet Newsgroup functions. There are many prime examples of individuals and companies who have used the Newsgroup facility to create new businesses. They establish a Newsgroup on a particular subject. Then they post open letters into the Newsgroup that describe a particular business opportunity, a new product or an innovative service. Internet users can log onto the Newsgroup index and if they are interested, pick the company's Newsgroup item. From here they can post open-electronic-news items of their own within the Newsgroup that other participants can also see. Using this kind of open communications channel, a company can build up a pretty good base of interested potential customers. All the company has to do is ensure that somehow or another it captures the Newsgroup user's e-mail address. The company can venture into the world of direct e-mailing. This whole area is a subject in itself and there are many books that specifically address the topic. All I have attempted to do here is make the reader aware that these electronic marketing opportunities exist.

Another approach to turning a Web site presence into actual sales is by providing site visitors

with access to a booking engine. This can be via a supplier's own booking engine interface to its corporate computer or by linking from the supplier's site to another site that provides a booking service. Let's examine this in a little more detail.

BOOKING ENGINE

Once a company has established a Web site, the next thing that it will need to consider is selling its product directly to consumers. This is a significant step for any company and one that is obviously not taken lightly. To sell products and services direct to consumers via the Internet, companies really need some form of computerized inventory system. Most companies will already have such a system that they use to control stock positions and support the sales process. Airlines have their CRSs, hotels have their room inventory systems, tour companies have their booking systems and so on. At present many of these companies use their booking systems as platforms from which to distribute their products via existing channels such as the GDSs and videotex. To distribute products via the Internet, a new interface is required. This interface will allow the company to make an Internet booking engine available to its site visitors.

Even with an in-house computerized inventory control system, developing an Internet booking engine is a non-trivial task. However, it need not be a major obstacle for a company. This is because there are specialist IT service companies that have already sprung up to support just this type of Internet application. In fact I have given an example of one such company in the section below entitled 'Interfacing supplier systems to the Internet'. These companies have developed the technical infrastructure that enables an existing booking system to be interfaced to the Internet. This infrastructure makes the interfacing task relatively simple and straightforward. It allows all kinds of systems to be adapted for the Internet. Even old legacy main-frame computer systems can be presented to consumers as dynamic new Web sites using this approach.

Companies that have established their own Web sites and have complemented these with booking engines are in powerful positions to generate

significant additional revenues from the Internet. This is especially true for companies that can: (a) sell their products or services to consumers all around the world; (b) sell their products or services without needing to deliver paper documents, e.g. an air ticket; and (c) accept payments from consumers via plastic card mechanisms. For these reasons, hotels are in a particularly strong position to exploit the Internet, and there are many instances that illustrate that hotels are in fact doing just that. The examples I have given in the following section include THISCO's TravelWeb, Utell's HotelBook and Marriott's own site. So, a Web site linked to a booking engine would appear to be the ultimate position for a company to strive for in the world of the Internet. But it really is just the beginning. It is at this point that highly targeted relationship marketing becomes a possibility.

TARGETED MARKETING

Companies with established Web sites and booking engines are in a position to undertake some highly productive marketing activities that have not been practical with older technologies. These all revolve around a customer data base and an activity known as 'push marketing'. First of all, let me explain this terminology. There are two types of marketing campaigns which are known in the industry as *push* and *pull*, respectively:

- **Push marketing** Push marketing is where a company's products are advertised widely to many people. The audience that is targeted may be very large and it is probably the case that only a small percentage of the audience will be attracted to buy the company's products or even simply to enquire about them. However, without the ability to know each one of their prospective customers individually, companies are faced with having to push the product at them in a kind of shotgun approach. The ultimate hope is that sufficient numbers will buy the product and thereby justify the high cost of the associated advertising campaign. Push marketing is what we are all used to and it will no doubt continue for many years, if not, forever. However, 'pull' marketing can be

more cost effective and highly productive. It also happens to be a marketing technique that is ideally supported by the Internet.

- **Pull marketing** Pull marketing is much more consumer specific than push marketing. It relies on establishing a relationship with a customer or consumer. The best kind of relationship is that which flows from a customer's purchase of the company's products or services. When this happens, the company is in an ideal position to learn a great deal about its customer. If customer information such as this can be categorized, indexed and stored on a data base then it can form the platform for highly effective 'pull' marketing campaigns. A pull marketing campaign is one where specific products are aimed at precisely those consumers that have either made prior purchases or whose profiles exactly match the product being promoted. The concept is to pull these specific customers towards the company and encourage them into purchasing those products or services that are of particular interest to them.

Successful 'pull' marketing campaigns are highly dependent upon IT for their effectiveness. However, pull marketing is not a new concept. There are many cases, for example, where a single site hotel can afford to keep a handwritten card file on all their guests. Each guest's card would show their personal preferences and the kinds of services they have enjoyed on previous visits. Then, when the hotel decides to hold a particular event, it scans the card file for previous guests whose profiles would seem likely to fit that of the planned event. Those guests selected would receive personalized letters from the manager reminding them of the previous event and introducing them to the planned new one. The problem is that this approach is not really feasible on a national scale and is totally impractical globally without some degree of automation. This is where the new and emerging technologies can play a vital part in travel-related marketing programmes.

It is now possible to use a similar approach to the old card file system across entire multi-national corporations that have customer bases of several hundred thousand people. With new IT it is perfectly feasible to process millions of electronic 'card

files' within a matter of seconds. In fact this capability is a combination of two new technologies: (a) the Internet, which provides the communications channel with the consumer and acts as a front-end for data collection; and (b) a good relational data base management system, which can index and organize the information gathered. Together, these two technologies enable companies to develop highly effective pull marketing campaigns. However, to be successful, a company needs to be highly disciplined in the way it deploys its IT on a global basis. Consider for a moment the key principals that a successful Internet-based pull marketing campaign should embody:

- **Internet Web site** If a company is to establish an interactive communications channel with its customers, it will almost certainly need to have a Web site of its own. To be effective, this needs to be highly interactive and responsive. It will probably use e-mail to exchange messages with existing or prospective customers. Ideally, the site should incorporate a booking engine and be capable of receiving post-booking feedback from the customer.
- **Customer data base** This is the core of any marketing effort. But for pull marketing to be effective, a customer needs to be identified individually. This is not so much a technical challenge as it is a logistical one. A method must be found that encourages a person to identify themselves to the Web site whenever they visit it. One commonly used approach is to request the user to enter their own user name and password whenever they visit the company's site. Once the consumer is registered other more detailed profile information, including their e-mail address, may be captured and stored within the data base.
- **Transaction history** While the presence of an individual's profile on the customer data base is critical, so are the transactions which that customer undertakes with the company. It is essential that all relevant details of each and every transaction is captured and stored so that it is linked to the profile recorded in the customer data base. The trick is to link what appear to be separate transactions, to a single individual on the customer data base.
- **Query tools** As the data base of profiles and transactions grows, so it becomes ever more important for the company's marketing team to be able to analyse the data and try to identify trends and patterns. This is the first step that a company can take towards understanding its customers. Only by doing this well can new products, services and special promotions be designed in the knowledge that a market exists for them.
- **Selection tools** Sometimes called profiling, this is a technique for selecting all customers from a data base that meet certain pre-defined criteria. For example, a hotel may select all customers who stayed in a certain room type as part of a weekend break anywhere in Western Europe over a particular holiday weekend (and who also booked using the Internet). Selection tools can be quite sophisticated and can specify very detailed parameters indeed.
- **Direct e-mailing** As more consumers use the Internet, so the number with registered e-mail addresses will grow. Because this is almost certain to be one of the data elements recorded within the customer profile, it can be used to communicate with those customers that have been selected. This is very similar to classical paper-based direct mail but with some important differences: (i) the degree of targeting is extremely high; (ii) the cost of an e-mail is virtually zero; and (iii) people are more inclined to reply to an e-mail than a letter, chiefly because it is hassle-free.

These are all very challenging principals for a company to implement successfully. More significantly, they all involve substantial amounts of expenditure in terms of both cash and people's time. However, there is clear evidence that most, if not all of these pull marketing principals are in fact being implemented by many companies right now. This, to a large extent, illustrates the faith that these companies are placing in today's fledgling Internet. So, as the world-wide population of Internet users grows in volume and Internet commerce grows with it, I think pull marketing will become a critical success factor for many businesses, particularly those in the field of travel and tourism. Companies that have started to experiment with

electronic marketing in the early days will be well positioned and sufficiently experienced to capitalize on these critical business survival skills in the future.

INTERNET MARKETING RELATED ISSUES

The Internet is such a new distribution channel that there are many issues that both suppliers and intermediaries are faced with. In this section I am going to focus on some of the major issues that influence the way in which companies market their products and services on the Internet. Each of these issues is explored only briefly because they nearly all could consume chapters in themselves. However, the following encapsulation of these issues should provide fertile ground for further debate.

Search engines

When consumers first start surfing the net in search for holiday planning and booking sites, they often start by using a search engine, e.g. Yahoo. There are several popular search engines and they each work in similar ways although there are important differences in the way in which they catalogue and find sites for users of the Internet. Web site owners register their sites with the major search engines and provide them with a great deal of information about the site and its contents. Besides providing Web site search functions, the search engine companies also award their own prizes to what they consider to be the best sites of the week or month; and they obtain much of their income from advertising other companies' products and services on their Web search page.

Now, the issue is: 'How is the sequence of a search engine's Web Sites Found display determined?' Let's say the consumer enters search criteria keywords of 'air travel booking'. The search engine will identify several Web sites that provide air travel bookings, but how will the sequence in which they are displayed be determined? Often, this is on the basis of the number of site hits recorded, but the criteria vary. Isn't this rather like the old CRS biased display situation that was judged as unfair and discriminatory by various regulatory bodies in the USA and the EC a few

years ago? Couldn't the big airlines, for example, pay vast sums in advertising revenues to the search engines to ensure their sites always came at the top of the list? If they did so, would this be judged to be unfair competition? It's an interesting issue, which to my mind has not yet been sufficiently debated within the industry.

The legal issue

This issue relates to the contractual position between the consumer and the supplier when a travel product is booked through an Internet site. If the Internet site is a GDS, for example, then a contract will exist for the provision of travel products from the supplier company to a travel agent. However, what is the legal position when a dispute arises between the consumer and the supplier? No such contract exists. Would it be possible for the travel supplier to claim that they did not formally approve the distribution of their products direct to consumers? In which case they might argue that because the consumer purchased the product directly from the GDS, then it is the GDS that should accept responsibility. After all, if a travel agent had been involved then the advice given might have been correct and no problem would have arisen. This issue is complicated further in situations where a product is purchased via the Internet by a consumer in a country in which the supplier and possibly also the GDS are not represented.

Booking fees

At present it is unclear how booking fees and commissions will be apportioned for travel sales made via Internet sites. Take, for example, one of the so-called supermarket sites (probably better described as one of the new intermediaries). Many of these new intermediary sites use a link to a GDS as their booking engines for air, hotel and car rental products. When a travel agent makes a booking via the Internet, what commissions must be paid by the supplier? Table 5.2 shows the various possibilities.

Assume for the moment that the supplier is a hotel. Should the hotel pay a GDS booking fee – after all the hotel's system is connected into the GDS and the hotel would normally expect to pay a booking fee if the travel agent booked via

Table 5.2 Booking fee possibilities

<i>Booking fee analysis</i>		<i>Supplier pays booking fees or commission to:</i>		
<i>Booked by:</i>	<i>Booked via:</i>	<i>Travel agent</i>	<i>GDS</i>	<i>New intermediary</i>
Consumer	Supplier's own Web site	No	No	No
	New intermediary and link to supplier's own system	No	No	Possibly (see note)
	New intermediary and link via GDS to supplier's system	No	Yes	Possibly (see note)
Travel agent	Supplier's own Web site	Yes	No	No
	New intermediary and link to supplier's own system	Yes	No	Possibly (see note)
	New intermediary and link via GDS to supplier's system	Yes	Yes	Possibly (see note)

Note: New intermediaries may collect a commission if they are, for example, registered travel agents as are Expedia. However, this is not always the case and many new intermediaries do not collect a booking fee from all suppliers, e.g. TravelWeb is not paid a fee for airline bookings that it handles for its customers.

their GDS terminal? If so, should the hotel also pay a travel agency commission as well as an intermediary booking fee? These new intermediaries will also need to keep their booking fees competitive with the GDSs. They must make sure it is cheaper for a supplier to sell a product to a consumer via the Internet than via the GDS/travel agent route. There are many related issues here – certainly sufficient to keep a class discussion going for quite some time.

Supplier interconnection strategies

With the expansion of new electronic distribution channels, suppliers without their own booking engines are now faced with a new problem: 'Which GDSs and Web sites should they connect to?' It would appear at first glance that a supplier should connect to as many GDSs and sites as possible in order to obtain the widest exposure. However, for a supplier without its own internal booking engine, there is a substantial overhead involved in connecting to a large number of third-party systems. Like so many issues within the area of IT in travel and tourism, the root of many of these problems is a lack of standardization. The problem is that for each system a supplier connects to, the supplier must support the following: (i) a channel

through which it can receive reservation requests; (ii) a method of providing confirmations of reservations; (iii) a method for updating the inventory and product details held within the site's computer; and (iv) a translation of its internally used data standards into the format and standards used by the distribution system, whether it be a GDS or a Web site. The short answer to this problem is for a supplier to obtain its own on-line booking engine. However, this is expensive and not economically feasible for all but the largest of companies. Most small to medium sized suppliers will instead look carefully at the alternative distribution systems and make a value judgment on just one or two that are most relevant to their businesses.

Advertising policy

The publishers of newspapers and magazines know only too well that there are rules and regulations that govern how they take advertisements from other companies for inclusion in their publication. It would, for example, be regarded as unfair competition if one newspaper refused to take an advertisement for one of its rival publications. The issue is: 'Does this apply to the Internet?' Could, for example, a site owner refuse to advertise a competitor's Web site on its own, all other things

being equal, e.g. space was available, other companies were advertised, etc. Would such refusal be regarded as unfair exploitation of the Internet as a public media and if so, which body could bring a prosecution and in which country?

Hotel Intranets

Internet technology allows hotel 'brochures' to be created electronically, complete with pictures, diagrams and a full set of room rates. What's more, individual versions of these electronic brochures can be created especially for corporate customers of hotels. These tailor-made versions can only be accessed by the client company via a special password and are not accessible by other general Internet users. These domains of private customer information that can exist within a hotel's Web site, are called Intranets. While most Intranets involve private networks owned by companies, hotels can distribute theirs via the World Wide Web. However, if a large hotel customer were to have their own networking capability, they could access the hotel Intranet via more secure means, e.g. via private leased lines or secure dial-up via ISDN services, both of which could use their own firewall for security and protection against unauthorized access. Once this begins to happen on a wider scale, hotels will have established a very powerful customer relationship that can be used to each organization's overall benefit. The hotels can then achieve increased sales with higher levels of profitability while the corporate customer can enjoy lower rates and provide a better service to their employees in terms of information availability and accommodation services.

Some of these issues begin to raise the question of what role intermediaries will play in the future world of the Internet and other electronic distribution channels. This topic has become known as 'disintermediation', which is a term I personally do not favour, particularly because it appears to be a misuse of the word. However, it is the term that is used throughout the industry to mean the possible stripping away of travel and tourism intermediaries. So, let's put the syntax to one side for the moment and consider exactly what the future role of travel and tourism intermediaries will be in the future.

Disintermediation

I thought this Internet chapter might be an appropriate place for a discussion on the future role of intermediaries in travel and tourism. After all, the Internet is one of the prime forces that could bring about disintermediation. The driving force for this is the cost incurred by suppliers in receiving a customer booking. It has been estimated, for example, that the cost of obtaining a booking via a telephone service centre is around US\$10, to receive a booking via a GDS costs around US\$3.50, but to capture that same booking via the Internet costs only 25 cents. These are broad brush figures but the message is nevertheless clear – intermediaries represent a substantial element of supplier distribution costs. It is not surprising therefore that disintermediation has already started and the only really interesting issue is the extent to which it will progress as time goes by. I hope the following preliminary discussion of the issues surrounding disintermediation will set the scene for the remaining sections of this chapter, which describe some of the more interesting travel and tourism Web sites that existed as at mid-1997. I just hope they are as relevant to you at the time you are reading this book as they were when I wrote it!

Travel intermediaries cover a wide range of organizations. Although travel agents are usually singled out as the primary intermediaries, there are many others that we need to consider. For example, the GDSs are intermediaries, principally between the airlines and travel agents. Then there are tourist offices, which are intermediaries between tourist organizations and consumers or tourists.

TRAVEL AGENTS

Let's take travel agents first. Travel agents are intermediaries between travel suppliers and consumers. They sell suppliers' products and services to their customers and derive a commission for doing so. A travel agent's added value to the customer is their expertise in travel and their knowledge of the relative strengths and weaknesses of various travel suppliers. A travel agent's added value to a supplier is their customer servicing role,

one which is time consuming and costly for suppliers to handle themselves. These are pretty compelling reasons for the existence of travel agents as intermediaries. However, things are changing. But, what are the fundamental reasons for this change? There are three catalysts for change: (i) the spread of automation from suppliers via distribution systems to agents and consumers; (ii) the supplier's rising cost of distribution, much of which is paid to intermediaries such as travel agents and GDSs; and (iii) the customers' impatience with the slow pace of change among travel agents, who they often perceive as adding very little additional value to their transactions. Let's examine each in a little more detail:

- **Automation** It used to be said that travel agents were the custodians of four key abilities: (1) they had the ability to print airline tickets, (2) they understood the complex airline reservations and booking language used by the GDSs of the world, (3) they were licensed to print airline tickets, and (4) they had the expertise to know how to arrange travel for their customers. But how much of this is still true now that: (a) the Internet is distributing travel related information and booking functions around the world using simple GUIs, which can be used by people who are not trained in IT or travel; and (b) airlines are introducing electronic ticketing, which does away with the need for airline tickets and related ticket stock licensing issues? It could therefore be argued that many other organizations and individuals now have access to at least three of the above four key abilities. If travel agents do not focus on changing their core competencies to the proactive provision of added value travel management expertise, then they may well find that their traditional reactive services are no longer in sufficient demand to support their businesses.
- **Suppliers' distribution costs** With deregulation and increased competition, suppliers are increasingly focusing their attention on overheads. One of the most significant overhead items is distribution costs. These are the costs borne by suppliers in selling their products to customers through distribution channels.

Historically, the primary distribution channels for most suppliers has been the travel agency network; and it probably will continue to be for some time. However, there is no doubt that this situation is changing with the spread of new technology. In any event, at present travel agents sell the vast majority of suppliers' output. This is a double-edged sword from the suppliers' perspective. On the one hand it removes the overheads of dealing with customers from the suppliers. They do not need to worry quite so much about the time-consuming and often non-productive tasks that are an important part of the selling process. Tasks such as pre-trip planning, giving advice on areas of the world, helping to decide the best time for the trip, advising on health and visa requirements and much more. All this is handled for them by the travel agent. The suppliers can therefore devote as much attention as possible to marketing their products and operating them. On the other hand, paying travel agents commission is a costly exercise. One that represents a large chunk of the suppliers' distribution costs.

- **Travel agents' added value** Many customers, particularly in the corporate environment, feel that travel agents are simply reactive and not sufficiently proactive. Agents react reasonably well to customer requests for bookings but they are perceived as not proactively offering customers added-value information that either reduces their costs or improves their service levels. While agents are striving to address this issue by appointing dedicated account managers to business travel customers, those very same customers are being constantly exposed to technological tools that allow them to add value without the overheads of an intermediary.

So, suppliers are constantly searching for ways to leverage their investment in automated systems and thereby reduce their distribution costs. Travel agency commissions are therefore being constantly squeezed. There are many examples of this including 'commission capping', which is commonplace in the USA. Airlines stipulate that for certain types of air ticket, usually the ones on common point-to-point routes, they will only pay commission up

to a certain fixed amount, regardless of the value of the ticket and the percentage commission that is usually paid. Then there is electronic-ticketing. The industry is rife with talk of the airlines restricting the commission paid on flights that are ticketed electronically. The argument being that travel agents have far less work to do for these sales and should therefore receive a lower level of commission. Finally, there are the smaller airlines that cannot afford the overheads of what they regard as a costly distribution channel serviced by travel agents. There are examples of airlines who are turning to direct sales to consumers and this had caused a backlash from travel agents who in some cases have refused to sell those airlines' tickets. Nevertheless, it is a strategy that appears to be working for certain airlines. So, what are the alternative distribution methods for suppliers wishing to sell their products to consumers? Here are some of the main ones:

- **Tele-sales centres** Suppliers can re-engineer their telephone customer service offices into fully fledged tele-sales centres based on new telecommunications.
- **The Internet** The Internet offers suppliers an opportunity to sell direct to consumers without having to pay sales commission to intermediaries. Also, Internet technology allows much of the travel advice and pre-trip consultancy to be given to consumers electronically.
- **Interactive television** This is a technology that is in its infancy and is way behind the Internet at present. However, it offers substantial potential for direct sales to consumers because nearly everyone has a television set, even if not that many currently have access to the Internet.
- **Self-service kiosks** These are intelligent ATM-style machines that are activated by consumers. They have links to suppliers' electronic distribution systems and sometimes include voice links and even video-conferencing.

I'll be examining each of these new distribution methods in more detail in a moment. But first, let's examine a key question: Why not use this new technology to by-pass travel agents and sell directly to consumers? This is really the heart of the disintermediation debate. However, there is no easy answer to this question. The push for

suppliers to sell direct to consumers is driven by a powerful force – increased profitability. However, this is partially offset at present by some substantial barriers to change, even though they may be of a transitory nature; and as we all know, change is one of the most challenging issues for management to tackle. Let's consider some of the key barriers to change:

- **The threat to sales** Suppliers are in the position of being highly dependent upon travel agents for the vast majority of their sales. Most airlines, for example, derive around 80 per cent of their ticketed sales revenue from travel agents. Travel agents are therefore their primary distribution channel. So, although there may be new ways for suppliers to circumvent travel agents as their primary distribution channel and substitute them for something less costly, in the short term this is dangerous. It is obviously a dangerous course of action for suppliers to attempt to bypass a distribution channel that delivers the vast majority of their sales volume. The danger is that if they start pushing an alternative channel that threatens travel agents, then travel agents will retaliate by switching sales to other competitors. So, deadlock. Suppliers would like to change to a less costly and more direct channel but they do not wish to upset the apple-cart and disenfranchise their primary distribution channel and thus jeopardize sales.
- **Ticketing** At present, consumers who book directly with suppliers need to collect their tickets before they depart on their journeys. The only practical ways to deliver tickets to customers right now are:
 - *Ticket delivery using mail and courier services* This is perfectly practical but poses some problems. First of all there is the time taken to deliver tickets by mail. For someone departing soon after making a reservation there is always the danger that the tickets may get delayed and not reach the customer before they have to leave on their journey. Then there is the security issue. Tickets can get lost in the post or even stolen during transit, which can cause serious problems for both the customer and the supplier.

- *Ticket on departure* Customers can collect their travel documentation at the airport, immediately prior to departure. Again though, there are potential problems. First of all, customers have to queue at the airport at a service desk to collect their tickets. This can be a problem if insufficient time is left for this task and the ticket desk is busy with long queues.

In so far as the airlines are concerned, electronic ticketing holds the long term answer to the ticketing problem (see Chapter 3 for a description of electronic ticketing). The clear trend is for air travellers to use electronic ticketing increasingly. Whether they buy their tickets from a travel agent or directly, they will in the future use electronic tickets. So, if consumers book their travel via one of the new electronic channels, they will not need to receive printed tickets at all. They will simply receive boarding passes from a self-service ATM-type machine when they arrive at the airport.

- **Payment** Receiving payment from customers remotely always introduces some degree of risk. While consumers feel safer giving their card number to a customer service representative over the telephone when contacting a tele-sales centre, they feel less inclined to do so over the Internet. Although the issue of commerce on the Internet is being addressed at present, it has yet to be resolved finally. Consumers therefore still feel disinclined to enter their card information into an Internet page, no matter what guarantees are given by suppliers. However, this situation is changing and if the USA is anything to go by, consumers are becoming more comfortable with paying over the Internet using secure encryption technologies.

I think that despite these obstacles there is a clear trend for suppliers to sell an increasing volume of their products to consumers using some form of direct channel that bypasses travel agents. One only has to review some of the travel Web sites that I have reviewed in the next section of this chapter to see that this is true. The question is: 'How quickly will this direct selling channel expand and to what extent will it grow?' Clearly,

the rate of expansion won't be any kind of a big bang but instead will be a more gradual process that will build its momentum over time. To explore how quickly and to what extent it will happen, let's take a look at the spectrum of travellers and the kinds of journeys they undertake:

- **Frequent travellers with simple itineraries** On one side of the spectrum are those frequent travellers who regularly travel between just a few destinations. These are relatively sophisticated travellers who know their destinations quite well and who are familiar with the alternative types of travel and competitive suppliers on their routes. Often, they are business travellers who work for smaller to medium size companies, but not exclusively so. People who have friends and family overseas also fall into this category. Such people make several trips each year to the same destination, which they get to know very well. This class of traveller derives little added value from a travel agent. All they really want is the lowest price ticket at a level of service for which they are willing to pay. There is little reason why they should not use a direct channel to obtain their travel products and services.
- **Independent travellers** These people do not buy pre-packaged tours and instead like to construct their own personalized itinerary. They include people who either know many areas of the world and simply wish to make their own arrangements to get there, or people who want to go exploring to more exotic locations. They usually find that the average travel agent will not know a lot about the kind of trip they wish to take because it is so specialized. What they want is to select the best air transportation, often the cheapest, add a car rental option, perhaps book the occasional hotel but usually make their own arrangements for accommodation when they are travelling. Again, these types of consumers often enjoy the process of researching their intended trip, reviewing alternative supplier options and building their own itineraries. Again, these types of consumers could well be attracted to a direct Internet channel, especially one that is rich in information content on far-flung destinations.

- **Packaged holiday-makers** A growing proportion of holiday-makers know their preferred destinations and are looking for simple packages at the lowest possible cost to one of the popular holiday resort areas. Good example of products in this category are fly-drive holidays to the USA, and either flight-only or flight plus accommodation packages to the beach resorts of southern Europe. There is clear evidence that many of these holiday-makers use television-based teletext information to research and book a suitable package. Once again, if these types of consumers have the opportunity, there is no reason why they could not book directly with a tour operator or consolidator via a direct channel.
- **Business travellers with complex itineraries** Many business travellers make extensive trips to a number of destinations on behalf of their companies. They tend to use a number of different airlines, hotels and car rental companies to meet their more complex travel requirements, which are often quite demanding in terms of travel time and pre-determined dates. Such trips really do require the services of a knowledgeable travel consultancy that specializes in route deals, corporate rates and can provide a high level of customer service. It is unlikely that these types of travellers will be inclined to make their own travel arrangements via a direct channel. So, this is an area where business travel agencies could develop their skills to offer a more specialized and proactive consultancy service to their customers.
- **Infrequent travellers** This category of travellers is relatively unsophisticated in terms of their knowledge of the world's travel destinations and need face-to-face contact in order to discuss their travel requirements. They would probably not feel sufficiently confident to choose a supplier or a destination without first having received some consultancy advice from a travel agent. They are therefore unlikely to simply book a package with an operator directly or arrange their own transport with a single supplier.

This brings us onto the issue of whether these consumers, who are eligible for direct sales, have

the opportunity or the propensity to do so. I identified the main direct sale channels at the beginning of this section as being the Internet, supplier hosted tele-sales centres, the interactive television and customer activated self-service kiosks. However, I am going to concentrate my analysis of disintermediation on the Internet. But before I elaborate on this, I feel I should really say why I am not going to pursue the other direct sales channels in more detail:

- **Tele-sales** Take tele-sales centres – there is no doubt that supplier tele-sales centres have significant potential for handling a far greater volume of direct sales. The principal technologies that will enable them to accomplish this are: (a) third-party offerings that enable call answering tele-sales activities to be outsourced to companies in the telephone service business, and (b) re-engineered in-house supplier systems that support tele-sales operators. However, the issues governing the rate of change in this area are not as complex as those in other areas such as the Internet.
- **Self-service kiosks** Self-service kiosks that are activated by consumers will no doubt grow, but are unlikely to replace any of the other direct distribution methods that I have outlined. These kiosks will I think provide more of a customer servicing function. In terms of direct selling, they may well allow consumers to browse travel alternatives and obtain information for trip planning purposes. However, when it comes to booking, the approach being used by many of the current schemes is to put the consumer into contact with a remote sales assistant either by telephone or in the more sophisticated implementations, by video-conferencing methods. So, while the use of these kiosks will no doubt grow, they are unlikely to cause a paradigm shift in consumer buying patterns across the industry.
- **Interactive television** Interactive television is a different matter – this is a technology that really does offer some significant potential for direct sales of travel products and services. The issue here is the mechanism that will be used to support the interactive dialogue with the home television consumer. On the one hand

this could be a new technology and a new network that allows television users to connect into different supplier systems and information sources. But is this likely to be something entirely separate from the Internet? Televisions are already being manufactured with Internet access capabilities. Despite the fact that there are technical difficulties to be overcome, it seems unlikely to me that with the investment many companies are making in the Internet that a completely separate technical infrastructure will be built just to support interactive television. So, my argument is that while I believe that interactive television will no doubt grow and become widespread, the interactive part of it will be based on the Internet.

It is the Internet that I propose to focus on for the remainder of this section. My reasons for this are the projections of Internet growth that I quoted in the introduction to the marketing section at the beginning of this chapter and also some other very relevant market research. First of all, the growth rate in numbers of people who are able to access the Internet is very high. It doubled in 1995 to 26 million and almost doubled again in 1996 to 50 million. It seems that this rate of growth is set to continue or even increase as new technologies, such as interactive Web-enabled televisions, arrive on the consumer home market. This end-user growth has a related impact on the number of Web-originated travel bookings. Analysts predict, for example, that travel bookings on the World Wide Web, which currently stand at some US\$400 million per year, will rise to US\$4 billion by the year 2000 (source: Jupiter Communications, New York). Despite the hype surrounding electronic commerce, the estimated fraud rate involving Internet transactions is low, at around US\$1 for every US\$1,000 billed. This compares, for instance, with US\$19.83 for every US\$1,000 billed using cellular telephones (source: Forester Research 8/96).

Having analysed the issues that are most likely to affect disintermediation, the bottom line question is: What will be the likely impact of new distribution channels, such as the Internet, on travel agents? Well, I hope from the preceding discussion you will have gathered that, in my opinion, it is

likely to be significant. That's not to say that it will be the end of travel agents. Far from it. Certain types of travel agents will thrive. But to do so they will need to change:

- They will need to focus on developing their true added value so that they can begin to offer quality advice, both to travellers and to corporate administrators. This should include the development of expertise on how people can travel most efficiently to different areas of the world with optimum use of supplier deals. It is difficult to see how any currently available electronic method can beat the all-round expertise of a travel expert in a one-to-one discussion. This is especially true for complex itineraries involving many countries and demanding travel schedules.
- Many of the simple straightforward transactions will be handled directly using new technology, such as the Internet. These represent the vast majority of business travel transactions that are often point-to-point return air tickets, possibly with a hotel.
- They will need to have access to some sophisticated business travel support technologies that will help them compete with suppliers, especially the airlines and GDSs. Many GDSs have developed business travel support systems that enable travellers to take care of their own travel arrangements, but consolidate information and control at the companies head offices. Although these systems currently keep the travel agent firmly in the loop, there is no practical reason why this should continue, especially with the advent of electronic ticketing. Unless travel agents have their own capability to do this, they could well lose their business travel accounts to either the airlines or the GDSs.

Now, to help illustrate some of the points that I have made above, let's take a peek into this future world in order to explore a few of the issues in more depth. Take a hypothetical company whose management employees travel a fair amount as part of its business. Assume that this company has decided to use a travel management software package that performs all the functions that the company needs to run its own travel arrangements. Such packages are available right now in any event.

So, in this future world, the company's sales director, for example, can use their lap-top computer to check availability via access to one of the GDSs that has a Web site. They enter their travel requirements and from an availability listing chooses a flight. The system checks that the fare and class are within the company's travel policy and that all required fields have been entered for future management information purposes. Their personal travel preferences are stored in the system on their profile and the system uses this to make a seat reservation. Now the fun starts.

There are clear rules that the airlines have agreed regarding the choice of ticketed carrier. The ticketed carrier is of course the airline who will issue the ticket and collect the fare amount via the BSP (see Chapter 7 for more details on BSP). Even though the ticket may be issued electronically, it needs to have a designated ticketing carrier. All right, let's assume that our GDS chooses the correct ticketed carrier. The next decision to be made by one of the systems involved in this future world scenario is who will collect the funds for the ticket. Airlines do not usually collect funds for ticket sales direct from passengers. This is usually done via the BSP. So, whereas in today's world the ticket would usually be allotted to a travel agent's IATA number, in our scenario, this would not be available because no travel agent is involved. So, now we come to the first issue: 'Who will collect the funds for direct ticket sales when no travel agent is involved?'

You might think this is simple – it should be the ticketed carrier. Well, if it is to be the ticketed carrier then consider this. Depending upon the route flown and the first carrier on the ticket, the ticketed carrier could potentially be any of the world's airlines. So, assuming the company's air travel is quite extensive, it will need to expect payment requests from a large number of airlines, i.e. each ticketed airline flown by the company's employees. From the airlines' viewpoint, each airline will need to send out payment requests to many different companies with all the associated payment processing functions that this will involve, e.g. sending out reminders, reconciling payments received versus payments due, controlling cash flows and outstanding receivables, vetting the credit worthiness of companies and, finally, coping with

company liquidations and bad debts. In other words an airline's worst nightmare.

OK, so let's assume that instead of the ticketed carrier having to collect the funds from the company, each company will negotiate with a single airline to produce all its tickets and collect all funds. This airline would then be burdened with quite a substantial administrative task. First of all, it would still have a number of company customers with whom it would have to deal direct. The airline would therefore be burdened with the same kinds of problems outlined above. Also, for the tickets that it issued on behalf of other airlines, it would enjoy a positive cash flow. However, would those other airlines be so happy. They would be carrying the passenger but would probably not receive payment until some time later. In other words they would be out of pocket for longer than at present. So, this scenario is unlikely to be acceptable by the airlines either.

Well, that just leaves us with the option of having some third party involved who will collect funds from the company and use the BSP system to settle ticketed carrier funds on a consolidated basis to each airline in IATA. Sounds familiar? The travel agent rears its head again. But what about the BSP organization itself? Couldn't it extend its clearing house role to include collecting payments from companies? Well, it's just possible but I don't think this is very probable. After all, BSP is owned by IATA, which is itself an airline association. Once again, the issue here is: 'Will the airlines want to get involved in payment collection from their customers?' I think that BSP has enough of a job collecting funds from a limited number of travel agents. Collecting funds from hundreds of thousands of companies would be a nightmare of even greater proportions.

This may sound like I have argued that disintermediation will not happen, at least not in the business travel air segment. However, that is not the real point. Although it seems there may continue to be a need for a travel agent, the role that the agent plays in the future will be quite different. In our future world scenario, the airlines will almost certainly not wish to pay the travel agent the current levels of commission just to act as a third party for BSP settlements. After all, in this future world virtually all the routine tasks are

undertaken by software. What added value has the travel agent contributed? Answer – very little; just the settlement function. Certainly nothing that would justify a percentage of the ticket value.

So, the travel agents of the future will have to derive their incomes from some other source. This comes back to the question of added value. The travel agents' added value is their consultancy advice. This expert advice is not always needed for every trip. In the case of our fictitious company, the sales director did not need any advice – they simply booked their trip using their lap-top computer. However, there will no doubt be instances where they will need to ask an expert what the best airline and route would be for a more complex trip. This is where the travel agents come into the picture and is an area where they can develop a niche for themselves. The agents should be able to apply expertise to help the traveller plan the trip and select the most appropriate airline, route, departure timing, departure airport and other travel arrangements. For this consultancy advice, the travel agents can expect to be paid. The problem for the travel agents is that they claim to have been doing this for some time and at no apparent charge to the customer (indeed, in most cases the customer has actually had money back from a share of the agents' commission). Travel agents will therefore need to work very hard to develop true consultancy expertise. This will need to be delivered to such a high standard that the customer will be convinced that it is worth paying for.

But value can be added in other ways. It can even be added by semi-intelligent machine-based processes. Some Internet applications already use a special piece of sophisticated software called an 'Intelligent Agent' (incidentally, the word 'Agent', as used here, has nothing to do with travel agents – rather it is an entity that acts for the user's own interests). An Intelligent Agent falls into that class of computing known as software robots. These are clever computer programs that understand user's requirements and search the Web for items that appear to match what the user is looking for. It is quite possible that Intelligent Agents will form an integral part of new Web sites operated by the new travel intermediaries. Intelligent Agents should be able to understand what a consumer is looking

for; for example, a holiday to Indonesia costing less than a certain amount, selected from four or five preferred airlines with departures from London Gatwick. Many other more detailed requirements and preferences could be included. The Intelligent Agent should then be able to search the Web for sites that contain the kinds of holidays that match these requirements and present them to the user. In other words, they do all the hard graft of signing on to relevant Web sites, searching them, recording the responses, signing off, going to the next site via a search engine and so on. However, despite the distinct possibility that they may find a niche in the travel industry of the future, I think it will be a long time before Intelligent Agents begin to replace travel agents.

So, not the end of the travel agents, but a radical shift in their role. Similar parallels can be drawn within the leisure side of the business. Straightforward holidays can be booked directly, possibly using one of the new distribution channels, such as the Internet. However, some people and some more complex holiday requirements will demand more specialist advice. Here, once more, there is a role for the travel agent. However, it remains to be seen how the travel agents will derive their income from this situation. Will holiday-makers expect to pay for expert advice from their travel agent? Will tour companies pay travel agents to offer advice on their products only? It appears possible that the environment could develop along similar lines to the financial services industry where agents are either tied to a company or offer independent advice on all companies. Although this appears to be getting away from the subject of IT in travel and tourism, these potential shifts in the underlying structure of the industry are being driven by rapid technological change.

TOUR OPERATORS

Tour operators are intermediaries between suppliers and either travel agents or consumers. They purchase products and services from travel suppliers and package them into a product that they market to consumers. So, what opportunities are there for using the Internet to provide electronic packaging mechanisms that could bring about the demise of tour operators as intermediaries? Well,

I guess like many of the other disintermediation issues, it is not quite as black and white as all that.

Undoubtedly, there are some consumers who are adventurous enough to use the Internet to construct their own packages. In fact, there are several software products around that support this very function. It is only a matter of time before they are available on the Internet. Say, for instance, that an Internet site was available that enabled consumers to: (a) browse an inventory of cheap hotel deals in a particular resort area; (b) browse a data base of associated seat-only air services; and, finally, (c) add a few optional sightseeing trips to their itineraries. At the end of such a process, the consumers would have assembled their very own personalized packaged tours (also known as an Independent Tour (IT)). It would only remain for them to print the itineraries, pay for the services and receive their documentation either through the mail, at the airport or electronically. All without purchasing a packaged tour from a tour operator – or is this really the case?

Why couldn't this kind of Internet site be run by tour operators? After all, they are the ones that have the relationships with the hotels and other services in the destination areas; and they often have their own charter airlines to these same destinations. So, maybe the only function that is at risk due to electronic commerce, is the packaging of these individual components for a consumer. Well, when you think about it, this is the very area that gave rise to most of the current problems for tour operators. Problems such as the decision process required to guess what arrangement of components will make a package that appeals to the widest number of consumers. The package holiday companies would like nothing better than for everyone to select their own combination of travel products from their inventories. Think of the massive reductions in brochure printing costs, advertising and agency commissions that this could bring.

However, I think it will be a long time before sufficient numbers of consumers become this sophisticated and confident to have a real impact on tour operators. However, it will undoubtedly happen, the only question is: 'When will it happen?' So, tour operators need to consider their strategic options and start experimenting with this new technology if they are to be capable of adapting to the new

electronic business world of tomorrow. In fact, a very good book that examines this issue in more detail, as well as several others in the area of tour operations in the UK and Germany, is published by DeutscherUniversitats Verlag by Karsten Karcher entitled *Reinventing the Package Holiday Business*.

DISTRIBUTION SYSTEMS

GDSs and HDSs are intermediaries between travel suppliers and travel agents. The GDSs have their origins in the airline CRSs that were themselves originally designed to enable airline sales staff to sell seats on their flights. Over the course of time they were first distributed to travel agents, then enhanced to include access to hotels and car rental companies and, finally, consolidated with multiple CRSs to form what we now call GDSs. Finally, the interconnection technology that linked GDSs to hotels was vastly improved by means of specialist industry switches called HDSs. What is the next stage in their evolution? As you will see from the remainder of this chapter, many of them have developed an Internet interface of some form or another. Some of the HDSs have broken new ground by turning the tables on GDSs and offering consumers and travel agents their own hotel-based Web booking services that also include GDS access. Generally speaking, access paths to the consumer via the World Wide Web at present keep the travel agent firmly in the loop – but for how long? It seems quite possible that new intermediaries can offer a whole range of booking services to consumers without using GDS technology or travel agents. But, first of all, let's consider the future of GDSs from an airline's viewpoint.

GDSs

An airline's CRS is quite capable of handling the bookings of seats not just for its own flights but also the flights of virtually every other airline. The precise functionality of how CRSs handle reservations involving other airlines is governed by their respective levels of participation (see Chapter 4 for more details on this). Airlines must pay a fee for their participation in GDSs and this is usually levied by means of a booking fee. Again, this is one of the major components of their distribution

costs that I analysed in more detail in the preceding section: and because distribution costs have a direct and substantial impact on profitability levels, any opportunity to reduce them needs to be carefully considered by airlines.

The Internet offers airlines a direct sales channel to consumers. Many airlines have developed their own sites, some of which also support booking and payment functions. The key question is: What effect will this have on their participation in GDSs? It could well be that as time goes on, a substantial proportion of their bookings could be derived from their own Internet sites or indeed from the new intermediaries (see next section for more details on the new intermediaries). Handling bookings directly via this channel has the dual benefit of: (a) eliminating GDS booking fees, and (b) eliminating travel agent commissions. This is a very sensitive subject for airlines and one on which they are unlikely to be very forthcoming. The reason for this coyness is that dangerous talk costs revenue. If airlines were thought to be considering this path they would disenfranchise their GDS as well as their travel agency relationships.

However, it is nevertheless the case that a direct Web site offers significant benefits that cannot afford to be ignored by the airlines. This explains why these sites are nearly all currently described as being quite separate from the main distribution channel and in many cases require the consumers to collect their tickets from their nearest travel agencies. But not all such sites require the consumer to do this. Some offer full payment processing with ticket collection on departure. The point is, it is rather like an insurance policy. Having an Internet site allows airlines to become familiar with the technology, to build a loyal client base (albeit a small one initially) and to establish some small degree of independence from both the GDSs and travel agents.

Now, let's consider the situation sometime in the future when most airlines have developed their own Web sites for information and booking purposes. Let's also further assume that many more people have access to the Internet and are using it heavily. Consider the situation from a consumer's viewpoint. Take someone who wants to fly to some foreign destination. Which airline Web site will they access? One might start with the national

airline of the destination country. However, with competition and deregulation, national airlines are rapidly becoming a thing of the past. Even if they weren't, they do not necessarily always offer the cheapest or the best deals. The poor old consumer could, in this scenario, spend a great deal of time visiting one airline site after the other, looking for a suitable deal.

Far better surely, to have a special kind of airline search engine into which you enter your basic requirements and it finds several airlines that have deals to suit your needs. Again, doesn't this sound familiar? The old GDS concept rears its head once again. However, the guise is somewhat different. Instead of this new generation GDS being the main switching point between the airlines and other travel service companies, it is much more akin to an Internet search engine. It would need all the functionality provided by a search engine but with more sophisticated links to other sites, principally airline sites. These links would enable it to collect, disseminate and present options to consumers that would allow it to direct them to the airline best suited to their needs.

But this is not a scenario that the airlines particularly relish. It takes away the consumer influencing part of the buying decision process and vests it in a separate company over which the airlines have little or no control. Then there is the bias rules and regulations to be considered. Who would police these new Internet-based airline search engines? Enforcing rules on Internet service providers is a tricky business that so far has not been tackled successfully. How, for instance, could the EU enforce its unbiased rules for GDSs on an airline search engine located in say, Malaysia?

However, the stakes are high in this game. If an airline can develop an excellent Web site that proves highly successful and popular with consumers then it is going to generate a substantial amount of revenue: and this revenue is potentially free from GDS booking fees and travel agent's commission. Once this begins to happen, the writing is on the wall for the GDSs. But don't let's forget that most of the GDSs are currently owned by airlines. Having said this, one can't help but notice the gradual divesting of GDS ownership by airlines. American Airlines' parent company still

Room rate charged by hotel		100.00
Less:	Travel agent commission at 10 %	-10.00
	GDS booking fee	-3.55
	Hotel switch processing fee	-0.50
	Booking service provider	
(e.g. representation company or hotel chain headquarters)		-9.00
	Credit card service fee	-3.50
	Corporate rate discount on room	-10.00
Total deductions		-36.50
Hotel income		63.50

Figure 5.1 The economics of hotel bookings

owns over 50 per cent of Sabre, but this is a lot less than its total ownership situation as of a few years ago; and there are several other examples where airlines can be seen to be reducing or selling their equity investments in GDSs. So, quite frankly, who knows what will happen? I think it all depends simply upon how successful the new airline Web sites are. Only time will tell.

HDSs

Now, what about the view of GDSs from the hotel industry's viewpoint; and in particular, the view of HDSs and their hotel owners. At present around 28 per cent of all hotel bookings are generated by travel agents. In the USA, 80 per cent of these travel agency hotel bookings are made using GDSs. In Europe the figure is far lower at 35 per cent and in Asia Pacific it is just 15 per cent. The other 72 per cent of hotel bookings are generated by consumers themselves either via toll free telephone calls to specialist reservation centres or by direct contact with the hotel. To illustrate the pressures for disintermediation from the hotel industry's point of view, let's take a somewhat extreme example. Take a hotel booking that is worth US\$100. Let's first of all assume that the booking was made by a business traveller who used a travel agent. The agent booked the room via a GDS and the customer paid using their credit card. The economics look something like those shown in Fig. 5.1.

At 36.5 per cent, the overheads of this booking channel appear excessively high from the hotel's

viewpoint. Even if we consider direct bookings received via the toll free telephone service channel, the hotel is still looking at some horrendous costs of sale. It is estimated that voice calls made by consumers to toll free telephone booking centres average between US\$10 and 15 with a frequently reached upper level of US\$30. Clearly, there are enormous pressures on hotels to seek alternative distribution channels for their products. The Internet is one such channel and companies like TravelWeb and Thisco offer a far cheaper route to market than the classical GDS/travel agent combination that has been the established way of doing things for so long. Many hotels already participate in HDSs like Thisco and to use this as a platform for bypassing the GDSs and ultimately, the travel agent, is an attractive scenario. If we take a hotel with 100,000 bookings per year and assume that it could save US\$13.50 per booking then this could generate US\$1.35 million each year. Now, I accept that a hotel is unlikely to be able to realize quite such a large saving, at least not in the early years of this new distribution scenario. But the important point is – this is the target that seems to be attainable by hotels, and it helps explain the rationale and pressures that are the principal driving forces behind GDS disintermediation.

TOURISM

Tourist offices, often also known as destination service organizations, are intermediaries as well.

They are intermediaries between national tourism organizations, which are often sponsored by governments or at least local governments, and remote tourist offices in overseas locations. The general pattern here is that the central government tourism organizations are charged with developing and executing marketing plans that promote their country or region overseas. This usually involves: (a) building a data base of national information and supplier details, and (b) distributing this to overseas tourist offices where information is made available to consumers and travel companies in a pre-defined area. These overseas offices receive local enquiries either by telephone, mail or from walk-in clients. Enquiries are serviced by access to the reference data and by distributing booklets and pamphlets as required (see Chapter 2 for more details on how IT is used to support tourism in this way).

It is the Internet that poses disintermediation in tourism. This arises from the growing number of Web sites devoted to tourist information. These sites are becoming quite sophisticated and many contain all the information that potential inbound visitors and travel organizations would want to know. Those sites that also offer on-line booking of accommodation services and events are particularly attractive to end users in other countries. The key question here is: To what degree will these Web sites impact local tourist offices? It is highly unlikely that these sites will cause the ultimate demise of overseas tourist offices, but it could have a major bearing on the size and distribution of offices.

The new intermediaries

I have used the term 'new intermediaries' to encompass any Internet site that offers a full range of travel services directly to consumers. In some cases these new intermediaries are backed by an existing distributor of one or more major travel products. However, what makes them a new intermediary in my terminology is that they offer a range of other travel products, not all of which are provided by the site's main sponsor. In other words, they may be viewed as an electronic travel agent offering a wide range of travel services and travel-related information.

It is also the case that some of these new intermediary sites use travel agents for post-sales customer servicing. The fact that they use travel agents in this way does not dilute their potential for affecting disintermediation, it does not make them any less important to the direct distribution of travel and tourism, nor does it mean that they will not have a significant impact on the classical travel agency. The kind of travel agent that has formed an alliance with these new intermediaries is just the type of agent that I think we will see more of in the future. Those agents that stick rigidly to so-called tried and tested methods based purely on face-to-face high street sales are the ones most likely to be affected by these new intermediaries.

EXPEDIA

Not many people know that Microsoft is a travel agent – but it very definitely is. Its Internet site, branded Expedia (Fig. 5.2), is one of the most important examples of the new generation of travel intermediaries. So, I would encourage any travel agents who do not think the Internet will have an impact on their businesses to take a good look at Expedia. It represents what is arguably the first real electronic travel agency aimed directly at consumers. It is a Web site that was launched in the USA on 22 October 1996 and is already highly successful. In the early months of its launch it sold an average of 1,000 air tickets each day generating over US\$1.25 million worth of air travel turnover per week. Along with this substantial volume of electronic air sales goes a significant amount of related hotel and car bookings. In fact the proportion of non-air sales made via Expedia is higher on average than the typical business profile of USA travel agents; and with a 20 per cent growth rate, Microsoft's business is already beginning to make serious inroads into the USA travel industry. At the time of writing this book, Expedia was only distributed to domestic consumers in North America. So, although anyone with an Internet connection could access Microsoft's USA site, only consumers actually resident in the USA and Canada were allowed to participate in the transactional booking functions of Expedia. However, Microsoft is now implementing its Expedia

service outside the USA with other major countries including the UK, Germany and Australia.

So, it is evident that Microsoft has entered the travel business in a very serious way. Its Web site, branded Expedia, incorporates a vast amount of travel-related information that is available in both HTML pages of text and graphical images recorded in full colour. This information is stored in several relational data bases that are indexed and accessible via powerful search engines. Expedia is also linked to the Worldspan GDS via a booking engine interface that provides consumers with access to the full range of published scheduled air flights, hotels and car rental services. All these travel products and services are available via a very user-friendly front-end interface that may be accessed using most secure Web browser software products including of course, Microsoft Explorer.

Microsoft's commitment to its travel business is characterized by the 120 staff that it dedicated to Expedia in 1997 and by its possession of an IATA licence. Microsoft is therefore a fully fledged travel agency in its own right and makes regular payments for air sales via the USA equivalent of IATA's BSP, just like any other USA travel agency. At present, for purely logistical reasons, Microsoft has outsourced its USA travel servicing functions to World Travel Partners (WTP), a USA travel group based in Atlanta, Georgia. WTP provides Microsoft with services that include the issuance of travel documents for Expedia customers, including air tickets. These are mailed to customers' home addresses using the regular USA Mail postal service or special courier delivery services as necessary, e.g. Federal Express. However, with the increasing use of electronic ticketing (see Chapter 3), this aspect of WTP's service may well become less important as paper tickets decline in use. WTP also provides an after sales service, or post-reservations support function, that provides customers with classical travel agency services delivered via the telephone and electronic mail.

Travelling with Expedia

Microsoft's strategy on post-reservations support for international markets seems to be based very much on the USA model. In each country or region, a travel company is selected as a customer service

partner. In the UK, for example, the travel partner is A. T. Mays. A. T. Mays has worked with Microsoft to develop a travel support function that includes several interesting facets (Fig. 5.3). Besides providing post-reservations support and fulfilment operations, A. T. Mays has built a data base of consolidator air fares and other travel-related information on a Web server that is located on the Microsoft network in Redmond Washington where Microsoft houses its headquarters and operations centre. It is these kinds of partnerships that are behind the real power of Expedia. Let me illustrate this by walking you through how a consumer in an international area (I've used the UK as an example here), interacts with Expedia to make their own travel arrangements.

Registration

To use Expedia for booking travel products, a consumer must first register themselves on the site. It is not compulsory to enter plastic card information, although this may be recorded and helps speed the booking process. A consumer may also elect to record their travel preferences within their own personal profile as part of the registration process. This enables the traveller's likes, dislikes and preferences to be entered automatically into booking fields at the appropriate time – a good example of Expedia's labour saving features.

General trip planning

Once registered, a consumer may browse the information stored within Expedia. This is an enormous data base of travel-related information that is maintained by Microsoft staff. Besides maintaining up-to-date information on destinations and all kinds of travel opportunities, Expedia also features chat sessions where a consumer can log-on to an electronic meeting place hosted by one or more experts in certain travel subject areas. The venue for these chat shows is published on Expedia and allows the consumer to choose when they wish to log-on and participate in the session. During a chat session, each participant's questions and observations are put to the host via a Forum Manager and are also distributed to all other consumers participating in the session. Microsoft uses full-time Forum Managers to provide its Expedia customers with expert travel consultancy on many

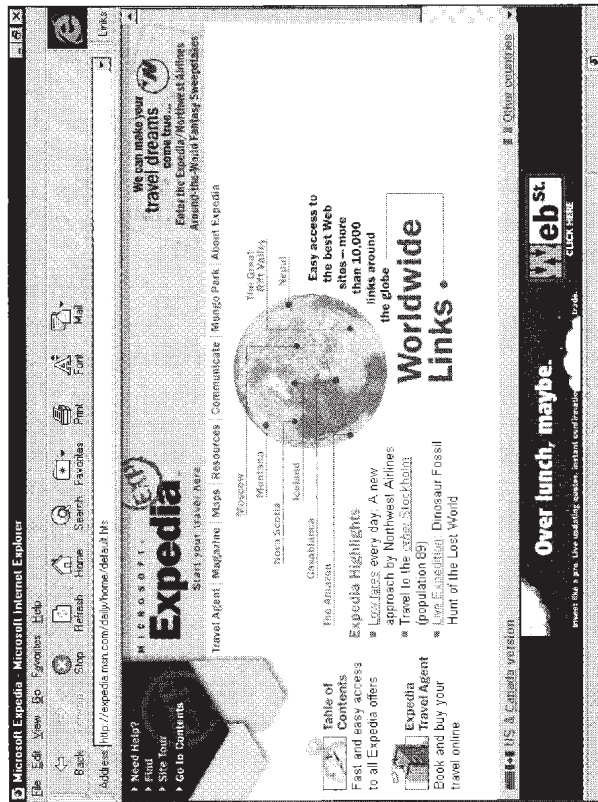


Figure 5.2 The Expedia home page (above)

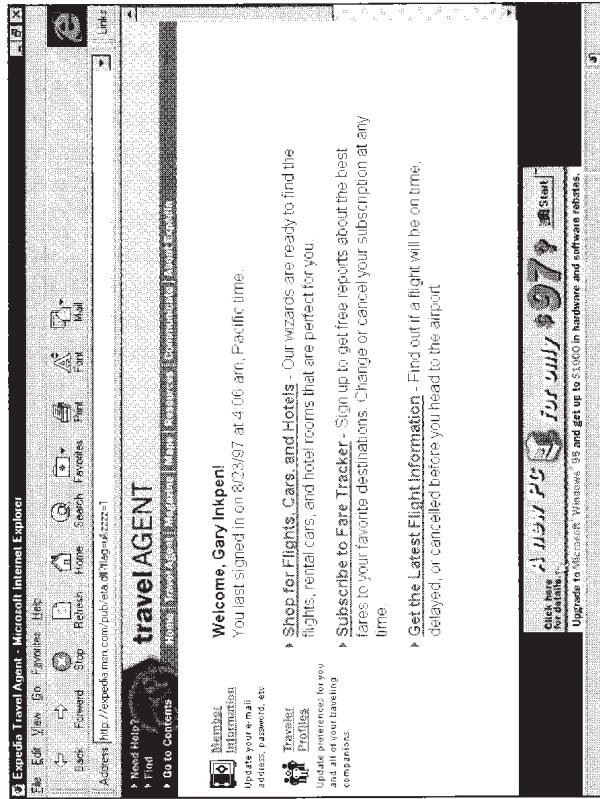


Figure 5.3 The Travel Agent page (above right)

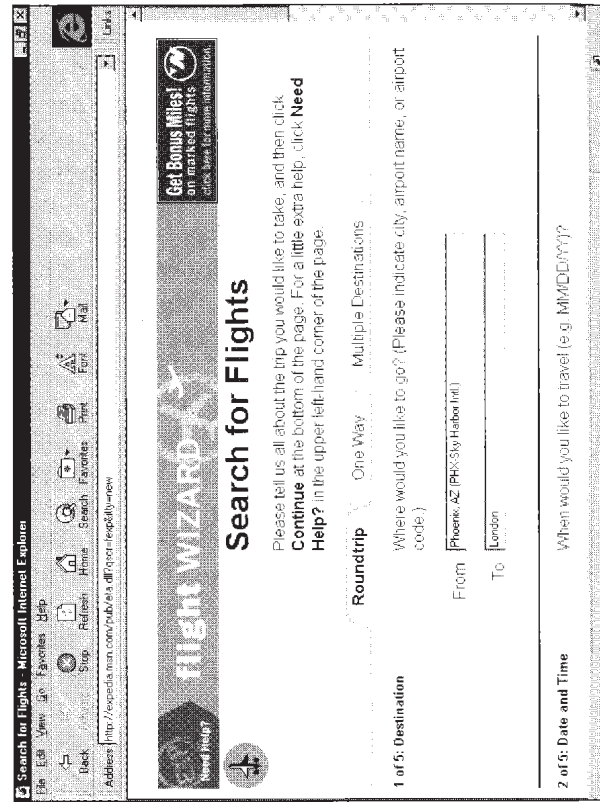


Figure 5.4 Flight Wizard

subjects and destinations. Much of the subsequent feedback and information distribution for these sessions is handled via electronic mail.

There are many general trip planning functions that are either part of Expedia or that may be found elsewhere within the Microsoft Web site. One of these is The World Guide. This presents the consumer with a simplified map of the world, divided into major regions. If a region is clicked, Expedia shows a more detailed map of the chosen region. Again, this shows a number of areas, each of which may again be clicked to show a lower level of detail. At the lowest level, textual information and pictures of famous places are shown. More information may be obtained by linking to another Microsoft site – the Encarta World Atlas On-line.

Another interesting tool available within Expedia's trip planning portfolio, is Mungo Park. This is a diverse collection of travel stories and information on the more far flung places of the world, which is branded by Microsoft as an adventure travel magazine. It even includes information on current and past expeditions to certain remote regions undertaken by specialist teams of explorers. Updates and reports on these expeditions can be viewed at any time. These often include dispatches transmitted from an expedition member's lap-top PC via a satellite link to the World Wide Web. Most of these dispatches are archived within the Mungo Park site for all to see.

Expedia's on-line data base pages make information-rich content directly available to the consumer. This can be a powerful way for a person to learn about a destination and plan their own itinerary. In fact, it is precisely the kind of information that people visit travel agents for. However, not only is it now freely available to anyone with an Internet connection but it can be obtained without the hassle associated with high street shopping; and what's more, it goes further than the average travel agent's capabilities. It can, for example, provide the more intrepid would-be holiday-maker with the kind of specialized information they invariably need to plan an adventure holiday in some far flung place; and adventure holidays are a growing sector of the travel market.

Once the consumer has decided on the kind of trip they would like to make, they select the

Expedia booking function in order to plan their trip in greater detail. The following sections describe how the major travel products are booked using Expedia. Each product selected by the consumer, whether it is booked or not, may be added to a personal itinerary file. The itinerary may be built-up over one or many Expedia booking sessions and is always available for viewing by the consumer. At the end of the booking process, it represents a detailed itinerary that may be printed using the consumer's own printer linked to their Internet browser PC.

Let's look at each of the main booking functions and products in more detail, starting with air travel which is supported using Expedia's Flight Wizard.

The Flight Wizard

Having decided upon an outline itinerary, the next step is for the consumer to do some detailed trip planning, obtain some prices and availability and then start to build a more detailed trip itinerary. Let's begin with the air travel options that are supported by Expedia's Flight Wizard (Fig. 5.4). In order to deter non-serious users and check a consumer's details versus their registration, Expedia requires the consumer's zip code, i.e. postal code, to be entered prior to processing a reservation. Next, the consumer enters the destination of the first leg of their trip. This may be expressed either in terms of a full city name, an abbreviated city name or an airport code. Expedia assumes that the consumer is travelling from their nearest home airport, although this may of course be changed. Next the date and desired departure (or arrival time) of the flight is entered. Finally, the consumer may choose the sequence in which Expedia will show their availability display. This may be either: (a) all flights in ascending sequence on price, or (b) all flights in sequence on the desired departure time and minimum flight time. All fields are presented to the consumer in the well-known Windows style that makes abundant use of drop-down lists, check boxes and radio buttons. This makes the reservation requirements easy for an untrained consumer to define accurately.

The next part of the process is, to my mind, one of the most powerful of all Web-based flight booking functions currently available on the

Internet. I'll therefore explain the steps that Expedia takes in order to show an availability display in a little more detail:

- **Build flight requirements** The consumer's flight requirements are checked and stored by Expedia within Microsoft's Redmond based travel Web server. Once the consumer requests an availability display of their stated itinerary, Expedia formulates a data base query that it sends to the travel Web server housing the air fares information built by A. T. Mays.
- **Assemble consolidated fare options** The travel Web server receives the request for availability and, first of all, queries the data base of consolidated air fares. It tries to find all fares on the data base that match the consumer's preferences for city pairs, dates, times and other details. All matches are assembled within the travel Web server. For each of the selected flights, an availability message is constructed and sent to the Worldspan booking engine (see also the separate section on Worldspan in this chapter).
- **Obtain flight availability** The Worldspan booking engine is used to obtain the availability of the specified flights. These will be very specific availability requests that specify precise classes of seat reflecting the consolidated fare contracts. All such flight details are returned to Microsoft's travel Web server along with associated flight operating details.
- **Build available flight display** The travel Web server then merges the information provided by the Worldspan booking engine into a list of flight details that match the consumer's stated requirements. The result of this query is a mini-data base of flight information built specifically for the consumer. It contains both contracted fares, i.e. consolidated fares, as well as scheduled fares.

This is an important feature that at present, is unique to Expedia. Most other booking engines show only the scheduled air fares for flights available from GDSs. However, Expedia also includes specially negotiated lower priced fares and their availability.
- **Show flight options** A summary of the available flights that match the consumer's stated

requirements is then presented on a Web page with a scrollable list in the sequence requested. In the case of a listing by fare price, it shows the cheapest flights first, which are usually those featuring one of the consolidated fares specially contracted by A. T. Mays. Any stop-overs or connecting flights are clearly shown. These flights are designated Expedia Special Fare. Then further down the list will appear the scheduled flights that may be more direct and convenient, but are often more expensive. Scheduled flights are designated by means of a small graphical image of the airline's logo.

All of the above is undertaken in a matter of seconds, without the consumer being aware of the detailed processing steps involved. The consumer simply sees the results in the form of an easy to understand Web page listing the flights that match their requirements in the sequence requested by the consumer. In most cases, a number of flight options will be shown on this Web page, which is fully scrollable.

Each flight shown on the summary page may be viewed in detail by just clicking on a Web page 'button'. When this is done, the particulars of the selected flight are shown on a separate page of its own. Each leg of the flight is shown in detail including: aircraft type, flying time, check-in time, meal options and many other key items of information. In addition to this, the conditions of the selected fare are also shown. This is very important and the conditions are shown in full detail, including: applicable fare rules, usage restrictions, implications of post-booking itinerary changes, lost ticket conditions and so on.

Booking

When a flight has been chosen, one of the first things Expedia requires the consumer to do is to accept the conditions of the selected fare chosen for the desired flight. This is accomplished by requiring the consumer to enter a check in a box marked 'signifies acceptance of conditions'. At this point Expedia offers the consumer three options regarding payment:

1. The flight details may be saved in the itinerary but not booked. This action does not reserve a

seat on the chosen flight but records all the details in the consumer's itinerary, which is stored in Expedia. All such stored itineraries may be retrieved at any point in the future and either cancelled or booked by one of the other two methods described below.

2. An option on the chosen flight may be taken. This option is recorded by Worldspan with an associated time limit. The option is automatically cancelled by Worldspan if not confirmed by midnight on the following day. To take an option in this way, the consumer must enter the last four digits of their card number. Although payment is not actually taken at this point, the entry of card information denotes a serious intention on the part of the consumer to eventually make a firm booking and deters frivolous abuse of the system.
3. The flight may be booked and payment details entered. Payment may be collected in one of two possible ways: (i) by entry of the consumer's card details, which are then used to pay for the ticket; or (ii) by selecting an option to pay for the ticket via a telephone call to the designated Expedia travel partner, which in the case of the UK is A. T. Mays. At present in the USA, over 90 per cent of customers who book travel products choose to enter their card details into Expedia rather than telephoning WTP.

In either case, following successful payment by the consumer, the ticket will be printed by A. T. Mays and despatched to the consumer's home address.

Tickets will only be despatched to the location that is registered as the cardholder's address. In the USA, an address verification system (AVS) allows a consumer's address as registered by Expedia to be checked against the cardholder's address as recorded by the card company's computer. However, this functionality is not presently available in the UK, or for that matter many other countries outside the USA.

To complete a booking, the consumer then specifies their personal details and preferences, such as the kind of seat they would like, the desired meal option and the frequent flyer number. However, virtually all of this information may be

pre-stored in the consumer's personal travel profile held by Expedia. If this is the case then all the fields that are required to complete a booking will be populated automatically by Expedia from the profile. Once this has been done, the booking is complete and the consumer may elect to either quit the system or continue building their itinerary with other travel services, such as making bookings for hotels and car rental.

The Hotel Wizard

Microsoft has gone to great lengths to develop a comprehensive and up-to-date hotel information system and booking function, which is now an integral part of Expedia. The primary source of Expedia's hotel information is the Worldspan GDS (see Chapter 4). All of the information about hotels that is available in Worldspan is actually provided by the hotels themselves. A preliminary review by Microsoft, undertaken before Expedia's launch in the USA, highlighted a problem – much of the hotel information in Worldspan was out-of-date and required updating. So, before launching Expedia, over ten full-time Microsoft staff spent several months working with Worldspan's data management group and telephoning its participating hotels to clean up the data base. The team managed to review and update all hotel-related information prior to Expedia's launch – a considerable task. Procedural processes are now in place to ensure that Worldspan's hotel information is maintained and quality controlled as part of the day-to-day operation. The result is a powerful and user-friendly hotel booking capability that is an integral part of Expedia.

To add a hotel booking to an itinerary is very simple and straightforward. I would argue that it is far easier than trying to do the same thing via a high street travel agent. First, the consumer selects the Expedia Hotel Wizard. This can be done in relation to an existing air booking, in which case the system already knows much about the desired service, e.g. the city, the dates and the arrival time.

Once this information is available, either by direct entry using the familiar windows style GUI or from information previously entered, the Hotel Pinpointer may be selected. This is a very useful tool that helps the consumer locate a hotel in the

area where their business trip or holiday is to be undertaken.

The first thing to be displayed by the Hotel Pinpointer is a Web page that on the right-hand side shows a map of the city in which the hotel is to be booked. Each hotel in the city is shown on the map by an unfilled small circle. A zoom feature allows the map to be expanded to show a wider area or focused down to show the locality of desired interest. On the left-hand side of the screen is a scrollable list of hotels in the city or area shown by the map. When a hotel is selected from the scrollable list by clicking on the hotel's name, a small red circle appears on the map showing the location of the selected hotel. This is a very powerful feature of Expedia's Hotel Wizard that enables an untrained consumer to make an effective decision on the best choice of location for their hotel in a given city. It also provides walking distances and times between the chosen hotel and any specified point in the city. This is accomplished very easily: having chosen a hotel, the consumer clicks on a point of interest on the map, say their office or a particular theatre. A heading box on the map then shows the walking distance and estimated walking time from the chosen hotel.

When a hotel has been chosen, another option within Hotel Pinpointer allows the consumer to view all relevant details that describe the hotel, such as: the address, the number of rooms, the facilities and amenities available to guests, the forms of payment accepted and the room rates. The choices now are either to book the hotel or to add it to the itinerary.

As with an air booking, if a reservation is required, Expedia will first ask the consumer to accept the terms and conditions that apply to the room and rate chosen. Then the required booking details are either automatically completed from the consumer's profile or entered field by field. Finally, the hotel room is booked via the Worldspan GDS Internet booking engine.

Car Wizard

This works in a similar way to the Hotel Wizard. The consumer chooses from a list of car rental companies or requests Expedia to show a list of car rental options in ascending order of price.

Each option can be shown in more detail down to the level that includes information such as the type of car, its characteristics and rental rate. Again, the terms and conditions are presented in full for the consumer to review and accept prior to booking. A car rental service can be selected and either: (i) booked using the simple windows style GUI and the Worldspan booking engine, or (ii) simply added to the itinerary for booking at some future point in time. A related function that assists a car rental customer with their choice of route is Microsoft's Address Finder.

Address Finder

Microsoft owns the Autoroute software package and associated mapping data base. Expedia has packaged this with its data base of travel information to provide support for planning fly-drive holidays. This has been bundled up into a comprehensive mapping data base of over 500 destinations.

When consumers first log-on to the Address Finder, they select a destination and are presented with a 360 degree revolving image of a famous landmark or scene. This is an attractive way of introducing Address Finder's rich store of destination information, which includes country, region and city maps. In the USA, an address can be located by entering a zip code. The Autoroute function uses this to retrieve the appropriate local map and displays it as a Web page for the consumer with an indication of the desired location. This can be used to determine the best way to reach a destination by car.

Post-reservations support

Once a consumer has used Expedia to research and plan their trip and the booking process has been completed, Microsoft's travel partner comes into the picture to provide post-reservations support. This includes many servicing functions, the most obvious of which are payment processing and the delivery of travel documentation to Expedia's customers.

However, even before these events take place, there are some important customer servicing functions that need to be undertaken. One of the most important of these is the management of GDS queues.

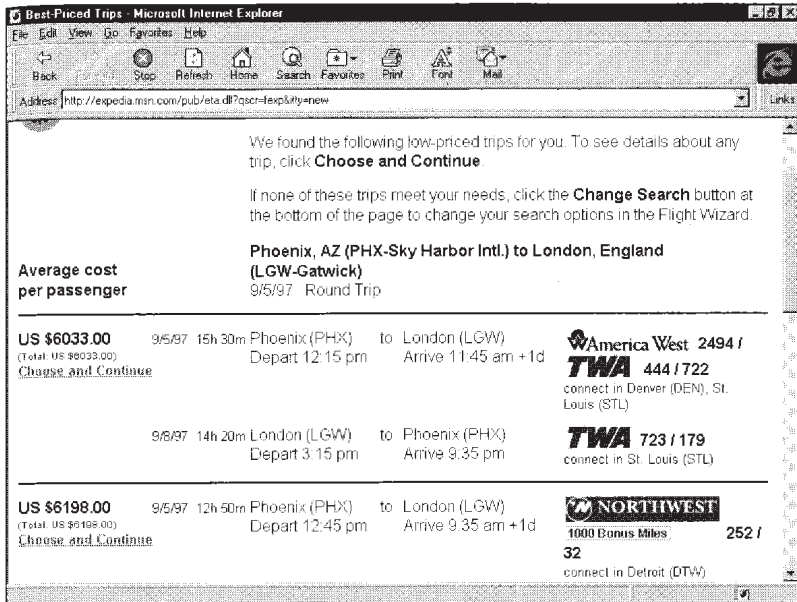


Figure 5.5 Flight Wizard – more flights (above)

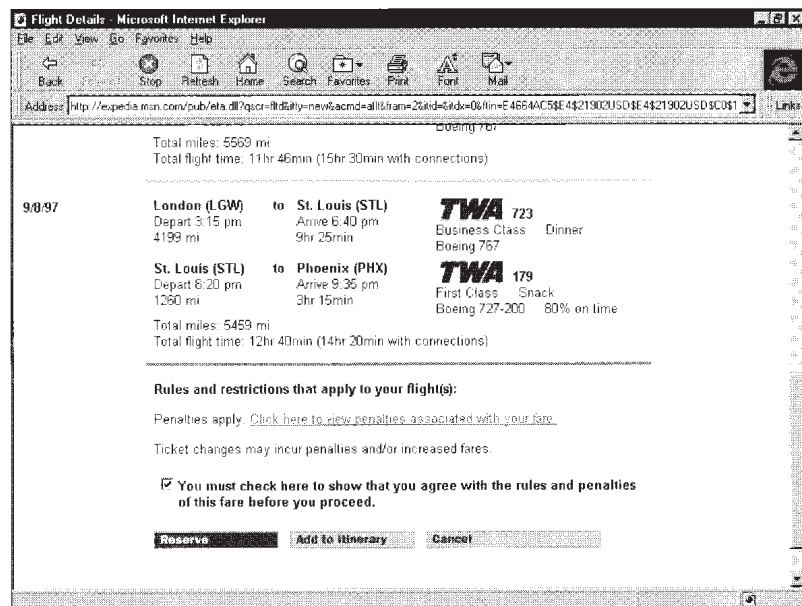


Figure 5.5 Flight Wizard – check to accept

When a reservation has been made by an Expedia customer, a PNR will have been created within the Worldspan GDS (see Chapter 4 for a more detailed explanation of Worldspan's booking system and PNR). When an airline needs to communicate with its customer it does so via the queue system. Queues are GDS tools that have been designed for use by travel agents (see Chapter 3 for more details). This aspect of customer

servicing is little different with Expedia as compared with standard travel agency practices. Any changes to a customer's flight details are noted in the PNR by the servicing airline and a copy is placed on the travel agent's Worldspan message queue. This queue is 'worked' by Microsoft's travel partner, which, in the case of the UK, is A. T. Mays. Travel consultants in A. T. Mays review the Worldspan queues regularly and note any

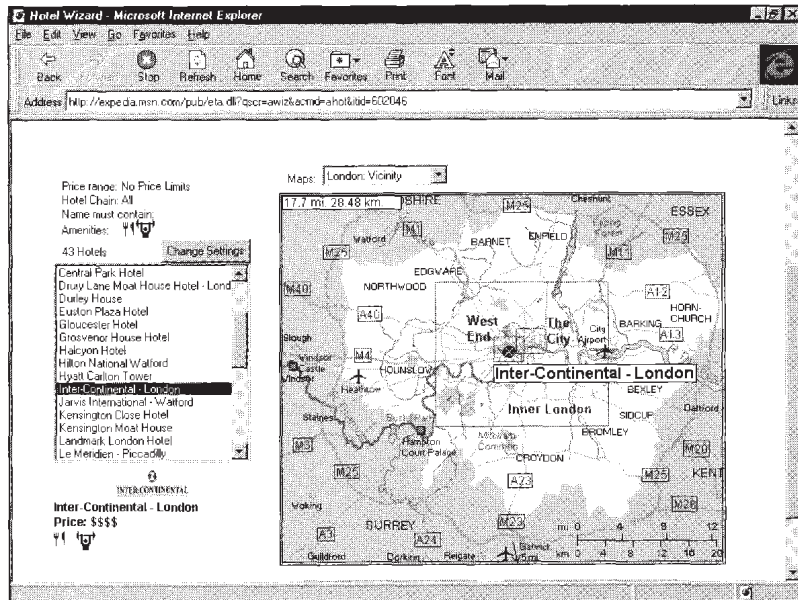


Figure 5.7 Hotel map – wide scale

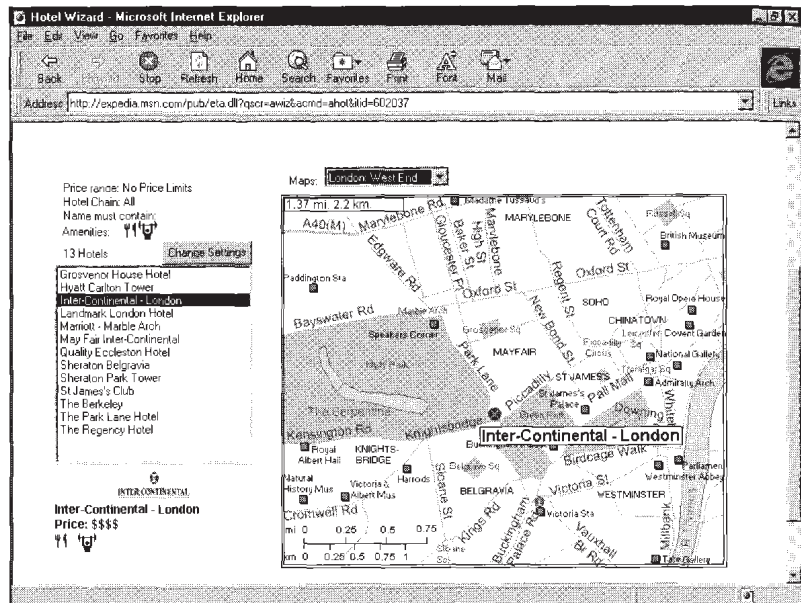


Figure 5.8 Hotel map – zoom

significant changes. These are communicated to the customer either via e-mail or in the case of more urgent changes, by means of a telephone call.

Expedia and the future

The book is still open on how successful Expedia and similar Internet-based travel sites will be in the future. The initial indications are, however,

encouraging for Expedia and other new intermediaries. But one of the issues that has only recently been identified is the ratio of 'look to book' transactions handled by GDSs like Worldspan. The price travel suppliers and GDSs have to pay for receiving more bookings directly from consumers is the increased overhead on computerized reservation systems.

By their very nature, consumers are less trained

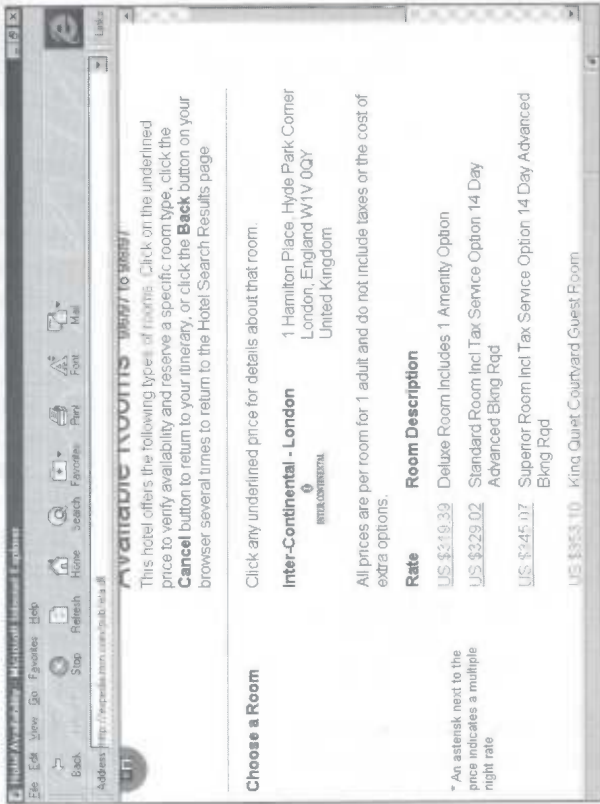


Figure 5.9 List of rooms and prices (above)

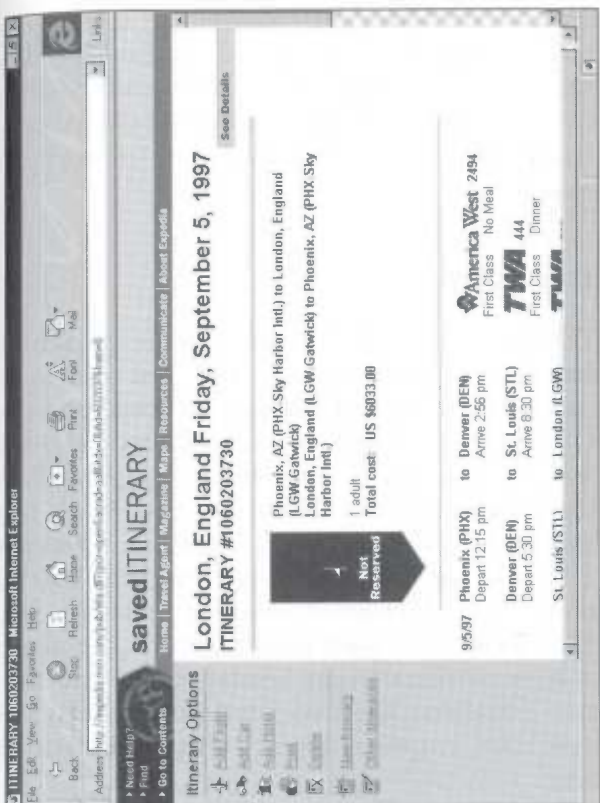


Figure 5.10 The itinerary (above right)

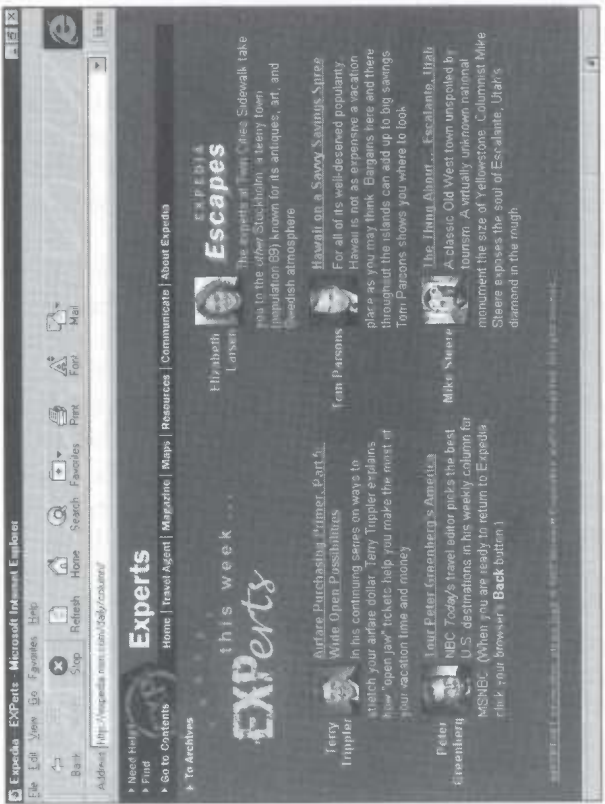


Figure 5.11 Experts magazine

in the complexities of travel than travel agents. Therefore they tend to do a lot more browsing and a lot less booking compared with a travel agent. But in so far as the GDS systems and networks are concerned, this manifests itself as an enormous increase in transaction volume that may well be out of alignment with historical booking ratios. At the end of the day this means higher costs for the GDSs and their airline participants due to the need for larger, more powerful computers and higher speed communications lines. Although this may be offset to some extent by the improvement in the price/performance ratio of IT, there remains the spectre of increased processing overheads and higher operating costs.

This issue will no doubt continue to be addressed over the next few years as electronic commerce grows and the new intermediaries develop enhanced capabilities for their interactive consumer networks.

An example of one such future booking facility being considered by Expedia is the provision of alternative options for those customers booking airline seats. At present, when a booking request is made, Expedia uses Worldspan to check availability on just the stated city pairs and dates. However, in the future a facility may be added that would ask the consumer a question of the form: 'Although an economic flight you have requested is not available on the date or between the city pairs you have specified, a good alternative is available on another day or between other cities close to your ideal choice. Would you like to consider these options?' This kind of functionality is rather complex to program and needs a lot of consumer research before it can become viable and/or practical. However, if it could be introduced, it would make the use of Expedia's Internet travel booking site that much more attractive to consumers.

Another enhancement that may be under consideration is the provision of contracted rates on hotels and car rental companies. This could be done in a similar way to the existing consolidated air fares data base facility. In the UK, Microsoft's partner A. T. Mays or even a specialized hotel company, could build a data base of contracted hotel rates. These would be special rates with a low price tag but with certain conditions only

available to Expedia's customers. These special rates would be created and distributed in a similar way to contracted air fares with booking functions supported by the Worldspan GDS. Contracted car rental rates could work in a similar manner.

TRAVELOCITY

Travelocity (Fig. 5.12) is the name of Sabre's Internet site, which was established jointly by Sabre Interactive and Worldview Corporation in October 1995. These two key players combined forces to provide a powerful and popular Web site comprising over 200,000 pages, which was launched in March 1996 and that by November 1996 had already registered more than 450,000 members and received over 4.1 million visits. Travelocity is a 'do-it-yourself' travel site aimed at both individual leisure holiday-makers and business travellers. The two companies driving this new URL, known as <http://www.travelocity.com> are:

- **Sabre Interactive** This is a division of The Sabre Group and besides running the Travelocity product, it also markets EasySabre, which is described in more detail in Chapter 4 (see GDS – Sabre).

Although Sabre Interactive is totally responsible for Travelocity, it buys specialist Web publishing services from Worldview Systems Corporation. This combination of expertise is one of the key success factors that contributes to Travelocity's broad appeal to consumers around the world.

- **Worldview Systems Corporation** This is a joint venture whose participants are Ameritech and Random House. It was founded in San Francisco in 1987 as an information publication and distribution company focusing on the travel industry. It provides up-to-date information on local events, attractions, dining, business services, night-life and shopping in thousands of destinations world-wide.

This new business comprises two main parts: (a) a consumer-facing world-wide Web site, and (b) a Web marketing business. Each of these two aspects

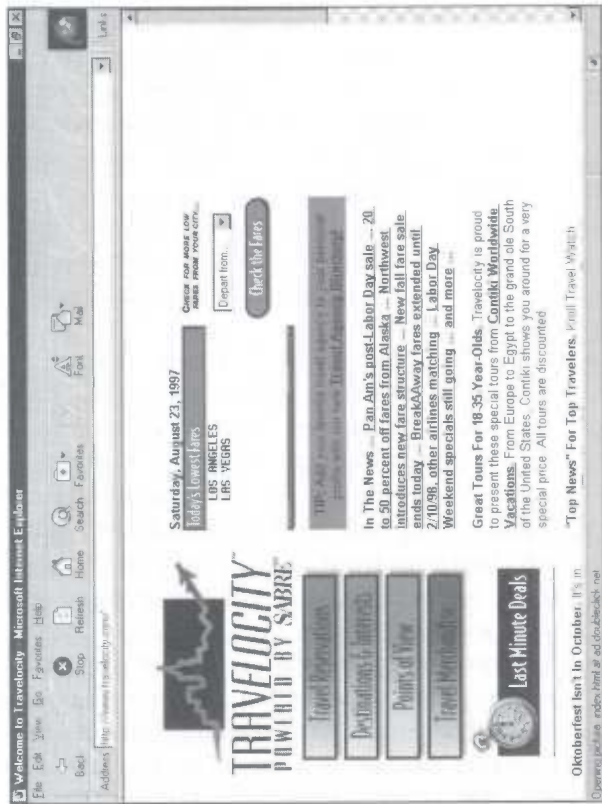


Figure 5.13 The Travelocity home page (above)

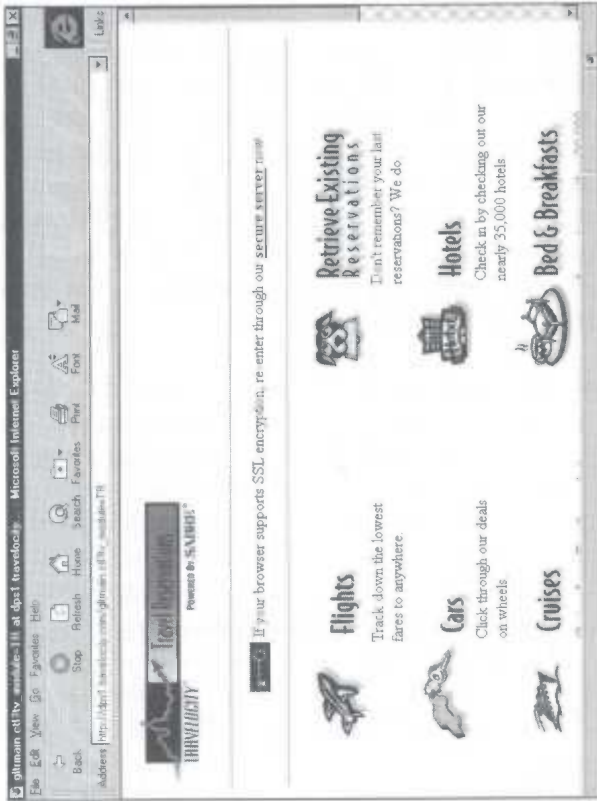


Figure 5.14 Travel reservations page (above right)

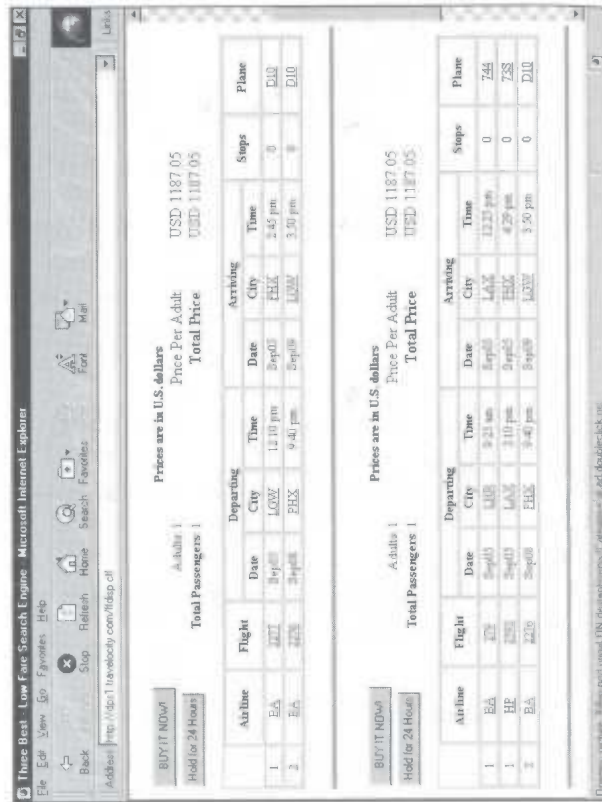


Figure 5.15 Air options page

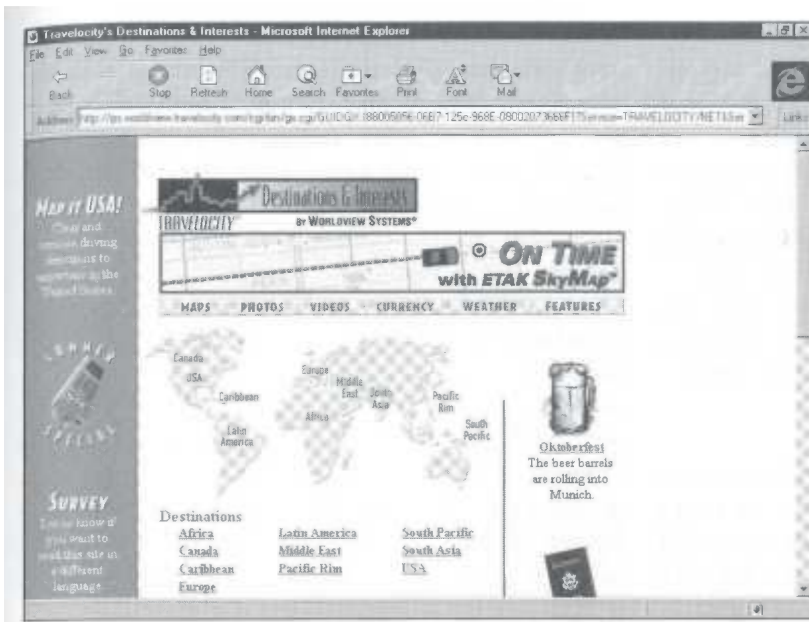


Figure 5.16 Mapping

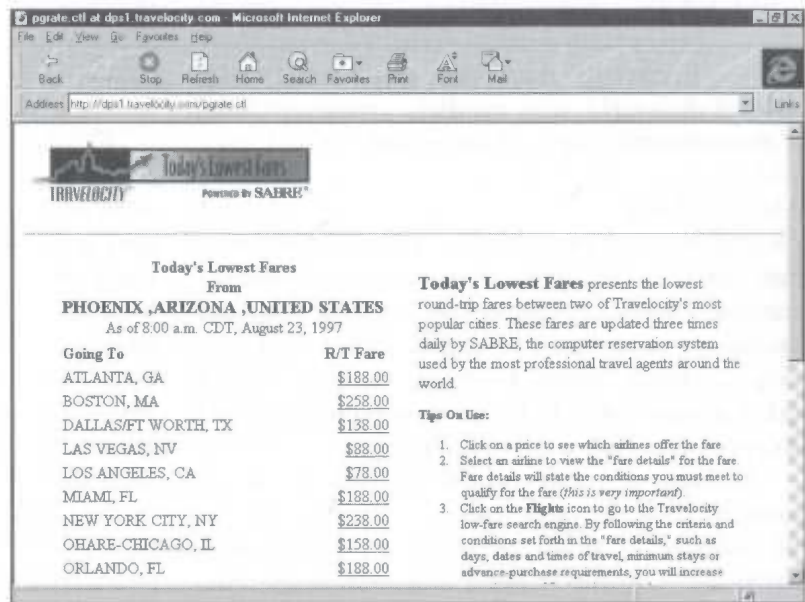


Figure 5.17 Lowest fares

Destination information

But Travelocity is a lot more than simply an interface to the Sabre GDS. Travelocity is truly a consumer-facing product that contains a great deal of searchable travel-related material. Examples include: (i) video and sound clips on over 22,000 destinations around the world, which provide in-depth facts and figures on a variety of subjects; (ii) merchandising services, which allow consumers to use Travelocity's Internet capabilities to purchase

products and services with payment on major credit and charge cards; and (iii) articles written by experts on travel-related subjects.

The depth of Travelocity's data base may be illustrated by the following statistics that summarize the types of information available: 9,500 restaurants; 1,400 museums; 11,000 bed and breakfast properties; 3,000 theatre, dance and music performances; 4,500 condominiums; 13,000 golf courses; and thousands of exhibits, shows and

festivals. Some of this information is provided by other sources with whom Travelocity has a commercial agreement. For example: Corel Professional Photos shows images of unique cultures and activities; Hotologic shows amenities and contact information for over 30,000 hotels; IVN Communications provides more than 1,500 custom video clips, multimedia displays and still images; Magellan Geographix shows a library of city maps; and the Weather Service Corporation provides weather maps and forecasts for each continent.

Chats and forums

The site also hosts an interactive communication channel for users, which is best described as 'chats and forums'. This enables users to swap ideas and ask questions on a wide range of travel topics via Travelocity's bulletin boards. Travelive, a regularly scheduled live chat conference, allows users to discuss topics with leading travel experts. There are also features on places, people and travel trends around the world, with spotlight articles profiling a destination or topic of the month.

Merchandising

One of the most promising areas for the Internet, and certainly for Sabre, is merchandising opportunities. Travelocity features lists of merchants and products from around the world, such as: luggage, books, videos, travel products, accessories and other unique items. Relevant facts on packing and shipping are provided for each item.

At present, products and services purchased using credit and charge cards via Travelocity may be collected at an airline office, an airport or a travel agent. In the future it may even be possible to collect merchandise from a Travelocity ticket bureau. Such an operation would, however, need to be created by Sabre just for this purpose. However, like many new services on the Internet, Sabre is waiting until a clear pattern of demand is established before investing the substantial development and investment resources required to build this new infrastructure and distribution channel.

It is, however, recognized that at the present time there is somewhat of a consumer perceived barrier to paying for services on the Internet. Although barriers such as this are forecast to come down over the next few years as better encryption

becomes more widespread and consumers become more confident of the Internet's security, in the short term Travelocity may well be used primarily for accessing information and planning travel. It is therefore quite possible that consumers will access Travelocity during the trip planning stages of tourism and then finally visit a local travel agent or some other retail outlet to purchase their tickets.

Another challenge for Travelocity is the degree to which it is customized for different areas of the world. Although, like most Web sites it is accessible globally, it is at present, i.e. mid-1997, customized purely for the USA consumer market. In this context, customization encompasses features such as the language in which the Web pages are displayed, the currency in which prices are quoted and the format of postal addresses. Customizing a Web site for true global use is a mammoth task that has associated with it a mammoth price tag. So, this development will undoubtedly follow an evolutionary path over a long period of time and will be driven by consumer demand.

Finally, Sabre has experimented with an interesting and innovative use of the Internet known as interactive auctioning. This is an electronic auction of airline seats, using the Internet as a communications medium. The way it works is as follows. An airline finds itself in the position of having a number of spare unsold seats on one or more of its flights, with only a short time to go before departure. It displays the details of these seats on the Internet, e.g. origin, destination, class, date, time, etc. Along with this, the Internet page invites consumers who are Internet users to make bids for the seats. At some point in time, the airline will review the bids received and sell the tickets to the highest bidders (whether or not there will be a reserve price is an open question, but I suspect somehow that there will be). Some people have received real bargains in this way and airlines have also benefited from the sale of seats that would otherwise have been empty.

Travelocity is also accessible from many other Web sites. These sites focus on providing specific types of users with targeted information on a variety of topics such as small business forums, links to other travel information providers and news services. Such sites have hypertext links to Travelocity. This means that visitors to these

sites simply click on a particular sentence or key word and are then automatically connected to Travelocity.

Sabre Web Reservations

At present this is a service that is offered to travel agents in the USA, Canada, Bermuda and Europe. Australia, New Zealand and other countries will be able to subscribe to the service as part of a roll-out program that commenced in 1997. The service supports those travel agents who either have already set up their own Web sites or are considering one. The services offered by Sabre Web Reservations used to include full site development services, such as page design, navigation through multiple pages and links to other Web sites. However, more recently, Sabre has decided to focus on the primary customer demand, which is the need for links from the agent's site to Sabre's booking engine. There is a one-time set-up charge and then an ongoing maintenance fee for all Sabre Web Reservations services. The service was originally introduced in two phases, the first of which is now complete:

- **Phase I** This supported travel agents in their efforts to create personalized Web pages for display purposes only. It also enabled travel agents to receive e-mail from respondents who view their pages and wish to take some kind of follow-up action. An essential feature is the ability to monitor the hit rate on a travel agent's site. Also available to travel agents is Travelocity's own search engine called Travel Explorer. This searches the Travelocity pages for subjects and keywords specified by the user and returns a list of page references and available Web sites. As mentioned above, this was an early service offering that enabled travel agents to establish their own Internet sites.

More recently, Sabre has recognized that many travel agents are now perfectly capable of independently creating their own Web sites and therefore the Phase I product offerings are now no longer available. Instead, Sabre has moved on to Phase II, which provides agents with a link to the Sabre booking engine.

- **Phase II** This enables travel agents with their own Internet sites to implement a link to Sabre's

Travelocity booking engine product. Phase II products are marketed actively in the USA. The Travelocity dimension allows consumers who access a travel agent's own Web site, to link into Travelocity for reservations purposes. Customers can then search for and reserve the lowest air, car and hotel rates as well as special travel agency fares. All of this information is shown in their local currencies with local taxes. The resulting reservations are sent electronically to the travel agency for ticketing.

This also allows consumers to pay for their products over the Internet, via Sabre. This whole process is controlled by core Sabre functions that communicate directly with the travel agent for payment and ticketing purposes. To use this service the travel agent must of course be a Sabre subscriber and possess an IATA licence that allows the agent to print airline tickets for their customers.

Travel agents are, however, exploring other ways of using the Internet in conjunction with Sabre. Because most of this development effort is undertaken by the travel agent, Sabre's role is now more of a supportive one, which really falls into the category of consultancy. However, it can be clearly seen that Sabre's underlying distribution strategy keeps the travel agent firmly in the loop, even though consumers may be able to book directly with them.

WORLDSPAN

Over the past ten years or so, Worldspan has developed and grown its own true global network in response to customer demand (see Fig. 4.17 which shows the Worldspan global network). This network can now support most of the common communications protocols, including those used by the Internet. It therefore provides Worldspan with an ideal springboard from which to exploit the Internet as a new distribution channel for its GDS services. This is a significant development because it expands Worldspan's travel agency world into a new dimension – that which is inhabited by that fickle of all users, the travel consumer.

There are really three avenues down which Worldspan drives its services on the Internet: (i) a straightforward subscriber service for travel agency users wishing to access the Internet; (ii) an alternative distribution channel for GDS services, which are provided via travel agents to consumers wishing to access the Worldspan system; and (iii) a third-party service that helps travel agents and other companies set up their own Web sites. Let's explore each of these three Worldspan Internet services in a little more detail.

Worldspan Internet for travel agents

Worldspan can provide full access to the Internet for its travel agency customers. This allows existing users to expand their booking PCs to become Internet browsers without the need for additional communication facilities. This is accomplished: (a) by using special software on the existing population of travel agency PCs, and (b) by using Worldspan's Internet servers with high capacity trunk connections into the Internet.

- **Gateway for travel agents** Travel agents use the Gateway Plus product (see Chapter 4 for more details), to establish a connection into Worldspan's global network by a variety of alternative methods. The two main methods are either by dedicated data lines rented from telecommunications suppliers or via dialled telephone connections on an as-needed basis. In either case, the travel agent may elect to use special Worldspan software on these PCs to access the Internet indirectly. The routing appears to be convoluted but is in fact extremely fast. Messages travel from the users' workstation PCs via their branch Gateway PC, into the Worldspan network and then via dedicated Internet Servers into the Internet itself. This allows travel agents who already have Worldspan PCs for information and booking purposes also to use those same PCs to access the Internet.

But it is the branch Gateway server that provides some very special control functions. These functions have been designed by Worldspan to be of particular interest to the travel agent's head office management. The software running in the branch gateway server provides

a high degree of management control over the services that are provided to end users in branches. For example, the branch gateway can limit the Web sites that are accessible by end users. This is especially relevant when a large multiple travel agent uses the Worldspan network to inter-connect its branches. In such cases, the multiple's headquarters management staff will almost certainly want to restrict the Web sites that staff in the remote branches are allowed to access.

It could be, for example, that supplier and tourism information sites are perfectly allowable, whereas sports results and games sites would be out of bounds. The Worldspan branch gateway server is the means by which this level of access is controlled. In addition to this, the gateway server can also restrict the hours during which the net is accessible by certain travel agency end users. While controlled access during normal office hours could well be OK, access after 6 p.m. or before 8 a.m. could either be disallowed completely or totally open, depending upon the policy set by the travel agency management.

- **Internet servers** Once through the branch Gateway server, the end-user's Internet traffic is routed across the Worldspan network to an available Internet server with spare capacity. This type of server is dedicated to handling Internet traffic and is connected into the Internet by high speed telecommunication lines. Each server is itself a high speed, high capacity computer, dedicated to Internet processing. These powerful computers not only serve as an effective gateway into the Internet for all Worldspan travel agency users but they also provide an adequate level of security: and security is very important to ensure that, for example, payment transactions are secure, viruses are not downloaded and the travel agent's systems may not be accessed by unauthorized users.

The benefits of travel agents using the Worldspan Internet path are: (a) it eliminates users having to dial into their local Internet service provider, (b) it provides the agency's management with a high degree of control over how its staff use the Internet, (c) it provides a high level of security to the travel

agent, and (d) it allows Worldspan customers to leverage their investment in GDS technology for Internet access.

Worldspan Internet for consumers

Worldspan's approach to consumer bookings over the Internet is inextricably linked to the travel agent community. While consumers may browse the Worldspan pages and peruse availability, when it comes to making an actual booking, a travel agent is always brought into play. Worldspan even goes as far as taking a consumer's card account details and then verifying them with the card company's own computer system. However, at this point, it offers the consumer a choice of travel agents from a list of pre-registered Worldspan subscribers. The consumer selects a travel agent that is, for example, either: (a) closest to the consumer's own home or office location, or (b) another agency with whom the consumer wishes to deal, perhaps on a mail-order basis. Once an agent has been chosen by the consumer, Worldspan automatically queues the booking to the agent for processing, ticketing and funds collection from the consumer.

Such an approach enables Worldspan to continue enjoying the support of a distribution channel that generates around 80 per cent of its bookings, while simultaneously marketing its services to consumers in new and innovative ways via the Internet. To a large extent, this strategy relies upon the travel agent for promoting the awareness of Worldspan's Internet service to consumers. Worldspan itself does not engage in the pro-active marketing of GDS services direct to consumers. This partnership approach works effectively and has so far proved to be mutually beneficial to both parties.

To do this, Worldspan has created its own infrastructure to handle consumer bookings over the Internet. This infrastructure is core to its Internet strategy and is based on an Internet booking engine (IBE). The IBE is a computer that is connected directly to the Worldspan host mainframe in Atlanta. It uses special interface software to front Worldspan's consumer-facing GDS service on the Internet. The IBE comprises two main components: (i) support for a user-friendly GUI browser for direct use by consumers, and (ii) a

standard communications protocol called SMI, which indirectly links consumers to Worldspan via other Web site providers. Let's take each one in turn:

- **Direct – via browser interface** This type of IBE connection is aimed at supporting Worldspan's relationship with consumers, via the Internet. A key element of the software that runs on the IBE computer is the user-friendly browser interface. This supports an easy-to-use dialogue for communicating with the Worldspan host system via any of the commonly available Internet Web browsers, such as Microsoft Explorer or Netscape Navigator. It assumes that the end user will not be specially trained in how to use a GDS and makes extensive use of windows, drop-down lists, menus and check-boxes.

Although the GUI is very user-friendly, it can be a trifle slow for an experienced user. It is for this reason that an alternative browser is planned by Worldspan, which will be offered as an optional product. This will incorporate native Worldspan GDS functions and will consequently be aimed at the more sophisticated user who may initially require some basic training before they can use it effectively. However, it will be significantly faster than the current Internet IBE browser.

- **Indirect – via SMI** This type of IBE interface is available to those companies wishing to connect their own Web site computers into Worldspan's GDS system. The communications protocol used to make this connection to the IBE computer is proprietary to Worldspan and is called SMI. This is a messaging standard that controls Internet-type messages flowing between computers. The two computers in this context are of course: (a) the Worldspan IBE computer; and (b) the Web provider's own computer, which, in turn, is connected to the Internet. In some respects SMI is similar to PADIS (see Chapter 1 – The TTI). It is an extremely successful protocol and is now widely used in the Internet industry. In fact, one of the reasons Microsoft chose Worldspan for Expedia's GDS booking engine was because of the flexibility and technical compatibility

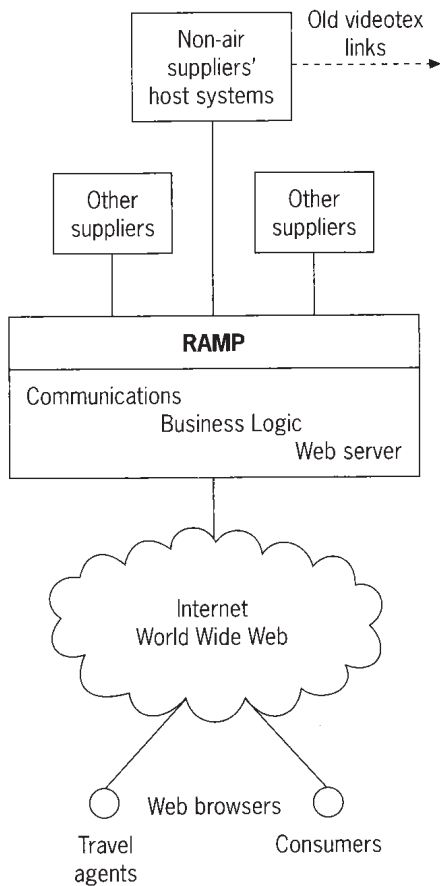


Figure 5.18 Worldspan's RAMP project

of SMI (see page 196 for a fuller description of Expedia).

Worldspan's IBE can therefore be used by companies wishing to act as booking intermediaries. Examples of such companies include Microsoft's Expedia and travel agents themselves. Each customer of Worldspan's IBE service uses this interconnection to provide its own customized Internet booking facility. This allows companies to create proprietary Web sites with embedded links to Worldspan's IBE, just as though the whole site, including the booking service, was provided by the companies themselves. When a site is created especially for a customer like this, it is of course heavily branded for that customer. Once on the Internet, it then appears to a browser, i.e. a consumer, to be the customer's own site and is not branded as a Worldspan site in any way.

Worldspan's IBE handles the booking and ticketing of both airline and hotel products. Car rental functions are to be added soon (almost certainly by the time this book is published!). A great deal of effort is currently being directed towards enhancing Worldspan's Internet services and the project code-named RAMP (Fig. 5.18) will provide the supplier side for much of these developments. RAMP is a strategic system and is based on Internet technology. This, together with Worldspan's global network and GDS booking functions, should enable Worldspan to become a leader in Internet-based information and booking services to consumers.

Worldspan's third party Web service

When a company wishes to establish its own Web site, it faces some considerable challenges in the areas of skills and resources. There are the marketing issues to consider, the graphic design skills needed to create attractive and exciting Internet pages, the technical skills required to write programs in Java, the expertise needed to write hypertext with suitable links to other pages/sites and finally the operational resources needed to keep the site running effectively and the information up-to-date. To this list can often be added the technical complexities of inter-connecting a company's own product inventory system to the Internet. Worldspan is particularly active in two prime areas of this new market:

- **Travel agents** Some large and technically competent companies undertake this work all by themselves, often using in-house experts. Many large multiple travel agents therefore already have their own sites, several with links to Worldspan. However, for the smaller agency that wishes to focus on its core competencies, i.e. travel, Worldspan offers a new consultancy service. Using this service, the smallest of travel agents can set themselves up on the World Wide Web and compete directly, and on almost equal terms, with the largest multiple. The Worldspan service provides customers with specialist consultants in all the disciplines required to establish a successful Web site.
- **Non-air suppliers** There are many non-air suppliers using well established legacy systems to control their inventories of travel products,

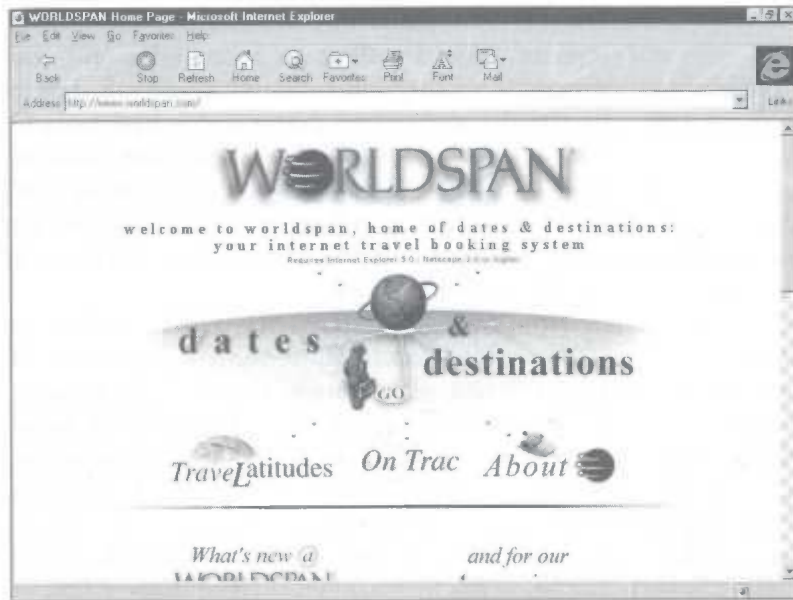


Figure 5.19 The Worldspan home page

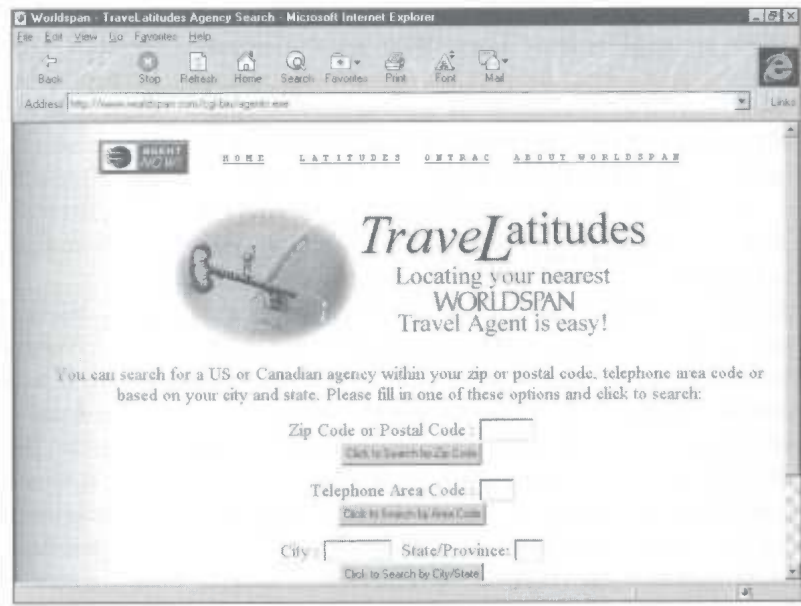


Figure 5.20 Finding a Worldspan travel agent

e.g. tour operators. In many cases these systems are distributed to travel agents via videotex. In such cases, Worldspan is able to offer these suppliers the ability to interface their systems to travel agents and consumers via the RAMP facility (which I first introduced in Chapter 4). A travel supplier wishing to expand its range of distribution options to other channels, such as the Internet, may thus contract-out the development of the required technical interfaces, to Worldspan. Because RAMP was designed

to simplify this task, the supplier may concentrate on the commercial aspects of an expanded distribution channel without being burdened by the IT resource and skill availability issues so often characteristic of these projects.

As you will no doubt have gathered, RAMP is a key element in these aspects of Worldspan's Internet services to the global travel industry. Figure 5.18 shows an overview of RAMP and illustrates how the system works.

TRAVELWEB

The TravelWeb Internet site is one of the leading participants in a portfolio of new and alternative travel distribution channels marketed by Pegasus Systems. TravelWeb is a separate company wholly owned by Pegasus Systems Inc., the parent company of Thisco (see Chapter 4). Besides offering seamless connectivity to many leading hotel systems, it also has access to an airline booking engine provided by Internet Travel Network (ITN). The primary role of TravelWeb is to provide the technologically sophisticated traveller with a full-scale travel service via the Internet. Hotel bookings are serviced on a one-to-one basis with the consumer using Thisco's Ultraswitch technology to link him/her directly to the hotel system of his/her choice. Airline ticket sales are fulfilled with the participation of a USA based travel agent. But before we explore how TravelWeb is constructed, let's first take a brief look at TravelWeb's company history. A brief review of its background should help explain how it reached its position as one of the leading new Internet-based intermediaries.

TravelWeb first appeared on the Internet in October 1994 when it was positioned as an on-line catalogue of hotel products aimed at the travel industry. In December 1995 a pilot version of the hotel booking engine was Beta tested by a controlled group of Internet users. This was the first time that Thisco's Ultraswitch hotel booking system had been connected to the Internet. The test proved highly successful and so in March 1996 TravelWeb was officially launched with eight hotel chains available for on-line booking. The first live booking was soon received by TravelWeb and to the surprise of management, this originated from South Korea and was for a stay in San Francisco on 24 December at full-rack rate.

TravelWeb became an outstanding success over the first seven months of 1996 with over US\$2.4 million in room sales being processed. By July 1996 a total of 16 hotel chains could be booked on-line via the World Wide Web. In August 1996 airline reservations and ticket purchase functions were added via the Amadeus System One GDS booking engine. This was replaced early in 1997 by a link to ITN, which is a private company operating links to most of the major GDSs. By

October 1996 TravelWeb reached a year-to-date level of US\$3.5 million in room sales and was averaging 15,000 individual visitors each day to its site. By the end of the year this had risen to US\$6.5 million in booked room revenue. Since its launch in 1994, TravelWeb has experienced a 40 per cent average month-on-month growth rate for hotel bookings. Quite an impressive debut onto the World Wide Web.

Before we dive into the detail of TravelWeb, it is important to set it within the overall context of Pegasus' new distribution strategy. At present, there are broadly two classes (Fig. 5.21) of distribution channels that Pegasus' hotel customers can use to reach their consumers: (i) the classic GDS distribution system route; and (ii) a choice of several new alternate distribution systems, the prime one being the Internet. The first of these, GDSs, is covered in more detail in Chapter 4 – Distribution Systems (see Pegasus). I am going to concentrate here on the new alternate distribution systems, most of which are based on Internet technologies. Of these, TravelWeb is one of the leaders. But there are others. For example, besides TravelWeb, UltraDirect also supports the following alternative distribution system providers:

- **Preview Travel** San Francisco based Preview Travel has a customer base of 850,000 registered users, which is derived from two main sources: (i) AOL customers and (ii) the World Wide Web. These customers, most of whom are leisure travellers, are provided with hotel information and booking functions by Preview Travel via their link to Pegasus Systems' Ultraswitch.
- **Internet Travel Network** ITN is a company that provides Internet access to the GDSs via the World Wide Web. It has replaced TravelWeb's original connection to Amadeus System One and provides GDS access for other alternative distribution suppliers.
- **TravelNet** Pegasus provides TravelNet with a hotel booking system for its corporate travel management product. This allows business travellers to book a whole range of travel products themselves from their lap-top PCs, while retaining a travel agency in the loop to take care of ticketing, consultancy and account management.

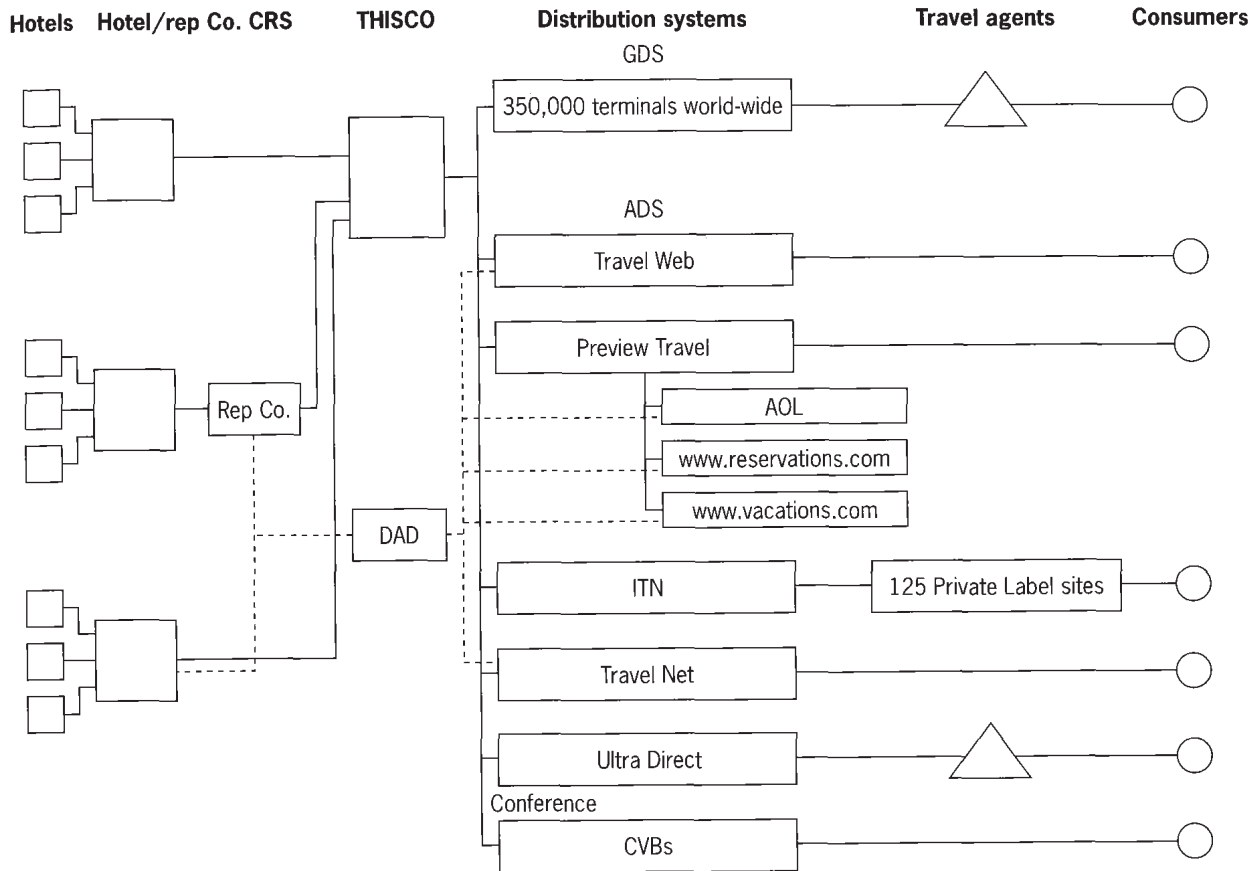


Figure 5.21 Pegasus TravelWeb transaction/processing flow

- UltraDirect for travel agents** Although UltraDirect is the generic name for Pegasus' alternative distribution system product, this sub-product is distributed specifically to travel agents. It therefore provides Thisco's hotel participants with an alternative travel agency route to that offered by the GDSs.

All of the alternate distribution suppliers using UltraDirect have their own market of consumers that they address individually, and all are connected to the Ultraswitch for on-line seamless connectivity to hotel reservation systems. Besides reservations, however, a common requirement of all these alternate distribution systems is access to information on hotels. This common requirement, which is a key feature of UltraDirect, has been addressed by Pegasus through its new distribution access data base (DAD).

DAD is really a separate data base sub-system all of its own, which is connected to the Ultraswitch (see Fig. 5.21). In 1997 DAD stored information on over 15,500 hotels, each with text, photographic images and full graphics. The primary purposes of DAD are: (a) on the supply side, to enable hotels to update their non-dynamic information in a consistent and tightly controlled way with in-built quality control features; and (b) on the demand side, to enable alternative distribution channel end users to access both the non-dynamic information and the dynamic reservations functions supported by Ultraswitch. To provide this infrastructure, a network of four servers is connected to the Internet by a front-end communications router. Three of these servers are dedicated to information management and are connected via Netscape's LiveWire technology and a 100 Mb Ethernet LAN, to the DAD data base.

The fourth is connected directly to the Ultraswitch computer and provides a gateway to the seamless hotel reservations functions of Thisco. This sub-system provides some critical functions on both the supply and demand sides of DAD:

- **DAD supply** A key success factor is the remote authoring techniques supported by DAD. Remote authoring places responsibility for page changes firmly in the hands of the participants. Each hotel chain may use either: (a) a batch interface, which maps the hotel chain's own data base to DAD's; or (b) an HTML on-line editor connected to DAD for information maintenance. This approach minimizes the administrative overheads of TravelWeb and helps ensure that information is up-to-date and accurate. Hotel updates are first captured in DAD's Work In Progress data base and following quality control checks are then migrated to the live DAD environment.
- **DAD demand** Incoming messages from end users are routed to the appropriate DAD server which can then provide either: (a) hotel information services, which are supported by three servers, each with its own link to the DAD data base; or (b) seamless connectivity to 14,000 hotels via the fourth server with its connection to Ultraswitch (1,500 hotels are also bookable but only via e-mail). The information servers use Netscape's LiveWire to create pages on the fly by merging DAD data base accesses with standard HTML templates to form an Internet page that is transmitted to the end user.

The TravelWeb server is also linked to specialized booking engines, the most prominent of which allow consumers to book hotel rooms and airline flights themselves. TravelWeb uses Thisco's Ultraswitch for hotel bookings and ITN for airline bookings (see above). In addition to supporting bookings from straightforward inventory, there are certain special marketing opportunities that make it possible for hotels to sell distressed stock on the Internet. Distressed stock, in the context of the hotel business, comprises rooms that remain un-booked with only a few days to go. Such rooms can be heavily discounted and offered directly to consumers over the TravelWeb site.

One of the other main functions of the TravelWeb server is to act as a translator between: (a) classical text-based computer systems that support TravelWeb's host suppliers; and (b) the Internet's HTML to which all Internet users are connected. This translation function allows TravelWeb's host suppliers to communicate directly with the PCs of home and business consumers around the world. A more detailed description of TravelWeb's main components is as follows:

- **TravelWeb's information pages** TravelWeb stores static information on 60 chains and 15,500 hotels located in more than 125 countries, many of which are SMEs. The information stored about each hotel is rich in breadth and depth – a virtual electronic hotel brochure for each participant. Besides the kind of textual information expected of any computer system including, for example, name, address, room rates and facilities, there is also a rich set of multi-media enhancements. For example, there are colour photographic images of hotel rooms, restaurants, meeting facilities, local recreational activities, maps and much more. A customized search engine allows users to find a hotel by a wide variety of parameters including: geographic location, chain name, rate range, amenities and facilities. The TravelWeb site comprises approximately 65,000 World Wide Web pages of information on hotel- and travel-related subjects.

Besides hotel-related information, TravelWeb also promotes a wide variety of advertisers and sponsors including AT&T, United Parcel Service (UPS), Access One, Aufhauser, Ceres Securities and The Sharper Image. All of this information is available via standard Internet browsers that allow consumers to navigate their way around the site easily.

- **The hotel booking engine** The TravelWeb Internet server is linked by high speed telecommunications lines to Thisco's Ultraswitch computer (see Pegasus in Chapter 4 for more details on this major hotel industry switch). It is through this link that consumers can book a hotel room from 14,000 properties that are part of 16 chains. The actual booking process is carried out between the consumer and the hotel chain's computer system, with no intermediate

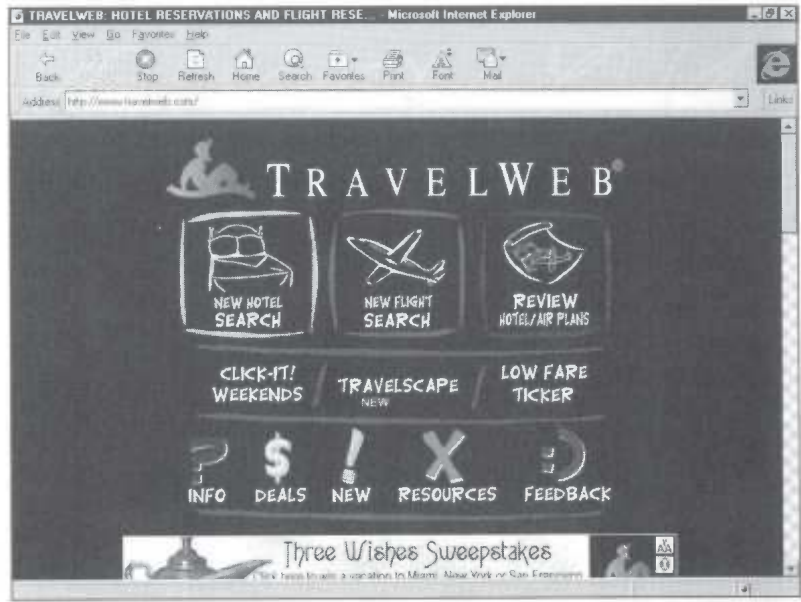


Figure 5.22 The TravelWeb home page

GDS involved at all. This *seamless connectivity* is about as close to a direct point-of-sale relationship with a prospective guest that a hotel could reasonably expect to achieve. Once a booking has been made, consumers may choose to guarantee their rooms by using TravelWeb's on-line plastic card authorization facility. TravelWeb therefore provides its participating hotel customers with a truly on-line confirmed booking service that is available to consumers all around the world.

The TravelWeb site is growing and developing all the time, usually in response to feedback from its site visitors. During Beta testing, for example, TravelWeb found that a great proportion of its site visits came from commercial Internet accounts, with most bookings occurring during business hours. Around 58 per cent originated from business travellers and 24 per cent from retail or leisure consumers. It was also found that 70 per cent of all TravelWeb bookers would have normally used an 0800 toll free telephone number to make their bookings – significantly, they would not normally have used a travel agent. About 15 per cent of users were located outside the USA, primarily in Japan and Canada. During the Beta test period, bookings were received from 29 different countries. Since the end of the Beta test

the rate of cancellations has dropped from 51 to 19 per cent – a factor that reflects the increasingly serious level of use rather than the high level of experimental bookings made by people during the test period. In 1997, the TravelWeb site was averaging 33,000 visitors per day and generating over US\$1 million in net reservations each week.

This feedback prompted TravelWeb to introduce more business travel oriented services. A prime example is The Business Traveller Resource Centre. This is a sub-set of TravelWeb's pages, which is aimed specifically at individual business travellers. It contains tailor-made pages of information on business travel topics and links to other sites on the Internet that offer products and services that may be of interest to business travellers. The 'special offers' category within The Business Traveller Resource Centre, for instance, provides some interesting promotional links. TravelWeb users can link to a merchandising site offering products at a special discount or alternatively to a sweepstake promotion organized by Preferred Hotels and Resorts Worldwide. There are also many other outbound links to services such as financial, computing/software, overnight package delivery, news, catalogue shopping, special fares and other promotions. At the last count, there were over 10,000 other Internet sites that incorporated dynamic inbound links to TravelWeb.

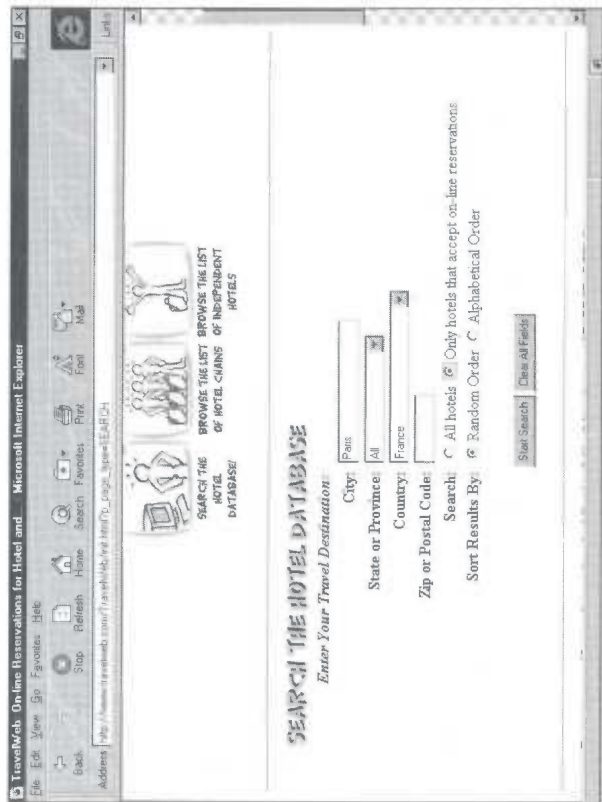


Figure 5.23 Hotel search parameters (above)

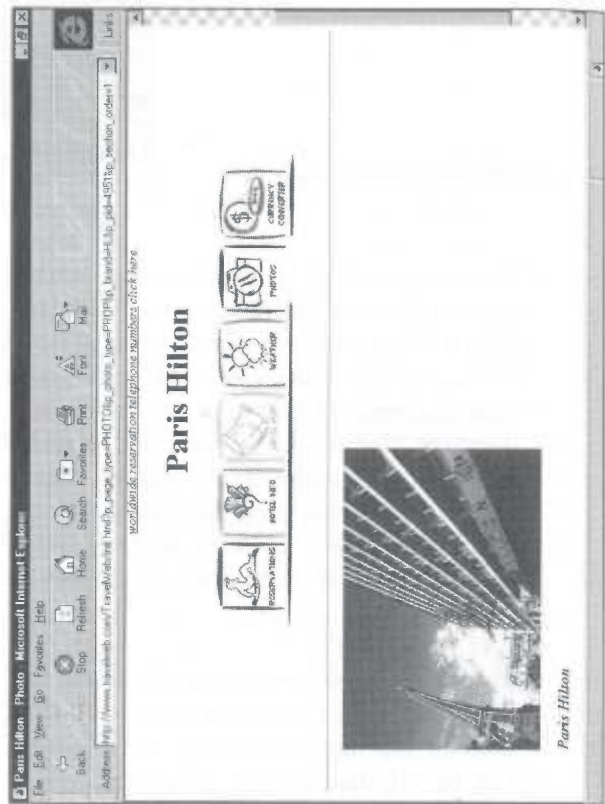
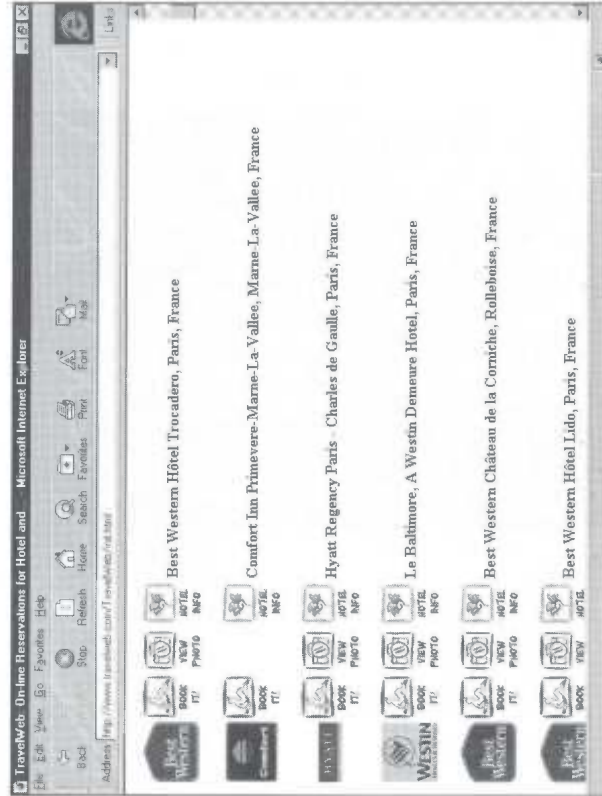


Figure 5.24 Hotel search results (above right)

Figure 5.25 Hotel photo

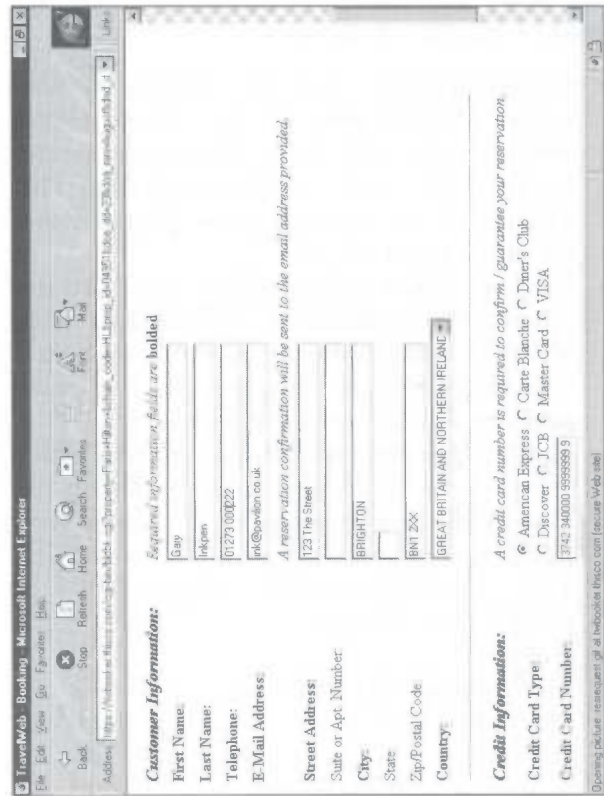
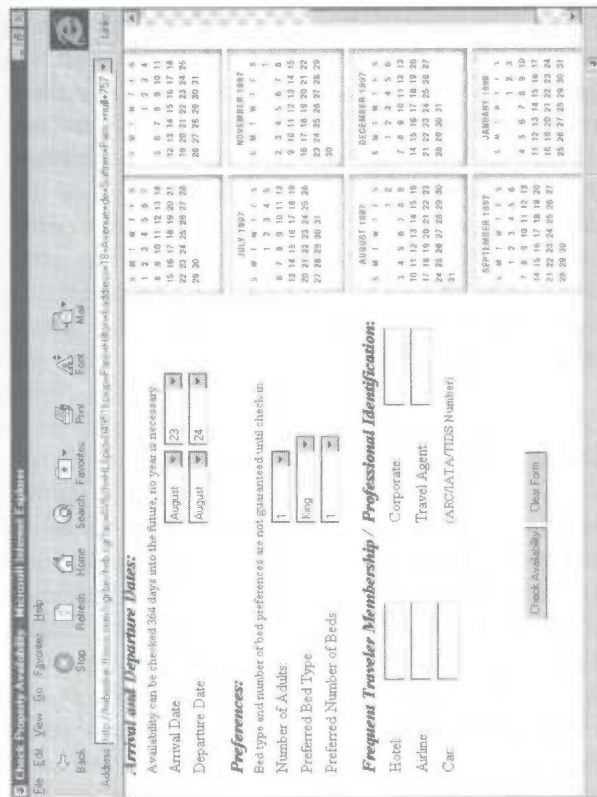
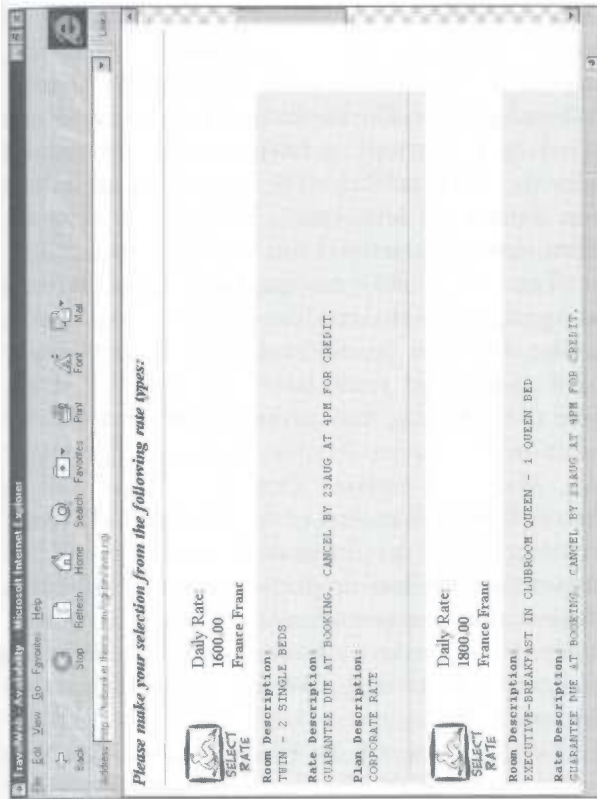


Figure 5.26 Check availability parameters (above)

Figure 5.27 Availability display (above right)

Figure 5.28 Booking screen

TravelWeb does not charge users for searches and reservations. The expenses of this site are funded by Thisco's hotel participants; and the reservation fees charged by TravelWeb to its participating hotels are less than those that are levied by GDSs for providing a broadly comparable service. TravelWeb booking fees are around US\$2.50 plus an Ultraswitch fee of US\$0.50 with no additional GDS fees payable by hotel participants. This also compares favourably with bookings received by hotels via telephone reservation calls, which average between US\$10.00 and 15.00 (and up to US\$30). TravelWeb's participating hotels also benefit from the following:

- **Potential market** Participating in TravelWeb opens up a potential market of 50 million Internet consumers in both the business and leisure markets, to participating hotels. This consumer base is truly world-wide and growing at a substantial rate.
- **Direct customer contact** The TravelWeb site provides participating hotels with the unique ability to hold one-to-one dialogues with their existing and potential customers. No other media provides this key-selling opportunity.
- **Reduced printing and distribution costs** Brochures can now be shown effectively on the TravelWeb Internet pages in full colour with pictures of rooms, locations and amenities. This reduces the need for high volumes of printed material currently used for promotional purposes.
- **Tactical marketing opportunities** Hotels can undertake their own innovative promotional activities on TravelWeb. This has a low overhead because it costs little to create and can be done within a very short period of time. The marketing of distressed inventory, as described above, is one good example.

Plastic cards accepted for TravelWeb bookings include American Express, Carte Blanche, Diners Card, Discover, Japan's JCB, MasterCard and Visa. Security is therefore a critical success factor. TravelWeb is controlled by Netscape's Commerce Server software, which has advanced Internet security features based on secure socket layer (SSL) encryption technology. Additional levels of security are provided by transaction authentication,

data encryption, firewalls, a transaction history of activity between customers and hotels and, finally, trip-wires by hotels and TravelWeb to identify unusual activity. The hardware has changed several times in an attempt to keep up with the rate of growth of TravelWeb. The server is currently a Sun Enterprise Ultrasparc 3000 and this is the third upgrade since the site was first launched.

TravelWeb may be accessed by consumers using virtually any modern browser, although a secure browser is required to complete credit card guaranteed reservations. Browsers that enable users to take full advantage of TravelWeb's multi-media pages include Netscape Navigator 2.0, Microsoft Internet Explorer 2.0, as well as Macromedia's Shockwave for Director. All these browsers have an integrated e-mail facility for response and follow-up purposes. TravelWeb takes the e-mails it receives from consumers very seriously. In fact over 300 e-mails are received each day and each one is answered by TravelWeb within 24 hours.

Finally, a word or two on costs. Running a successful Web site is not cheap. Especially one that is dynamic, up-to-date and transactional. TravelWeb started life as an operation costing around US\$110,000 to run in 1994. By 1995 this operating expense had grown to US\$1.6 million and for 1996 the cost was over US\$3.8 million. If TravelWeb continues to grow at the historic levels experienced to-date, we may not have yet seen the levelling of the operating cost curve. Future growth will always demand higher levels of investment in IT in order to keep pace with consumer demands as the Internet itself grows over the next few years.

Suppliers' Web sites

Suppliers are finding the World Wide Web an increasingly attractive directing marketing channel. While most suppliers would not consider it practical to distribute their entire product ranges directly to consumers, there are certain niche areas where direct selling is the ultimate route. The Internet offers suppliers an ideal opportunity to go one step further than advertising and sales promotion via the Web and use it for bookings.

This is, however, a significant extra step because it involves payment processing and an extra level of security. However, these functions are increasingly being provided by standard software like Microsoft Merchant Server. So, suppliers are experimenting with the Internet for the direct sales of niche products to both leisure consumers and business travellers. The following section contains several examples of suppliers' Web sites, some of which have been very successful in attracting and processing a significant number of on-line direct bookings.

BRITISH MIDLAND

British Midland launched an Internet Web site in December 1995 branded CyberSeat (Fig. 5.29), which is available at URL <http://www.iflybritishmidland.com>. It is interesting to explore the rationale that British Midland used to create this innovative new site, which incorporates full booking and payment functions. The starting point for our exploration is the business environment in which British Midland found itself during 1995. This was an environment in which the cost of sales was rising rapidly against an average of only £70 revenue generated from each ticket sale. When this was set against the company's associated internal processing the profitability of certain sectors of the business began to look marginal. British Midland also experienced a distancing of its sales and servicing staff from their customers. In fact, many pre-sales interactions with customers had virtually been lost in some cases. There was therefore a danger that British Midland would lose all opportunities to differentiate itself from its competitors.

Consequently, a review of British Midland's distribution strategy was undertaken. A fundamental objective, which was identified early in the project, was to reduce the cost of sales in order to improve yields and increase the underlying profitability of the business. One of the main distribution costs incurred by British Midland is GDS booking fees. At present these amount to a fixed fee of £4 per booking that, bearing in mind an average domestic ticket value, generates only a relatively low amount of revenue. But there are also some related concerns, the two main ones

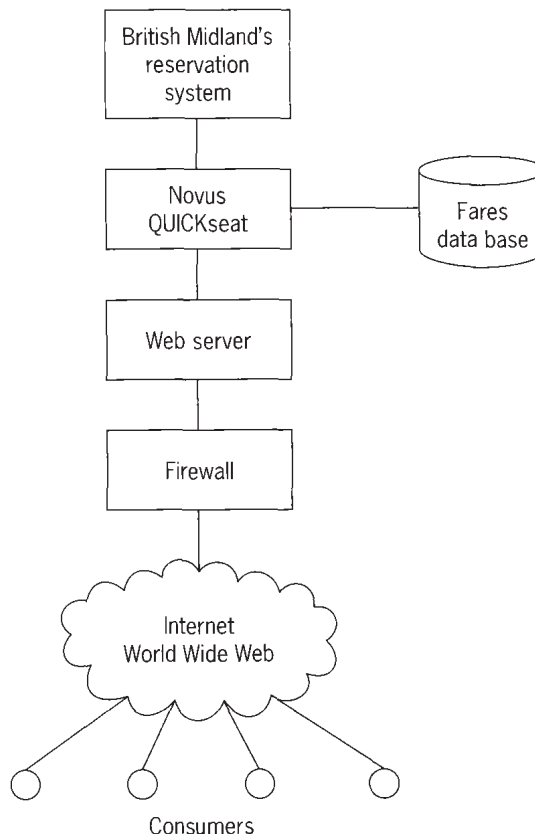


Figure 5.29 British Midland's CyberSeat

being: (a) the trend towards higher booking fees in the future, and (b) the fact that booking fees are fixed and not related to ticket value. While a fixed booking fee may be more acceptable to airlines with long haul routes involving higher ticket values and therefore higher revenues, British Midland exclusively fly short haul routes in the UK and Europe that generate low average ticket values. This makes a fixed GDS booking fee of £4 a very significant proportion of each ticket's overhead costs and was the primary reason why British Midland wanted to introduce an alternative to GDS distribution. On top of this, other distribution costs that are inherent in the GDS and travel agent channel, are also significant. These include communication network costs, travel agents' commissions and travel agents' override payments.

Along with this fundamental objective was a need to increase the effectiveness of the sales process and to increase the revenue generated per

passenger carried. A closer relationship with the customer was also an important objective. The problem that British Midland faced in trying to pursue these objectives was that it was severely constrained by its participation in the major GDSs. Although GDSs are now virtually all neutral in terms of bias, they are nevertheless owned by airlines that are competitors of British Midland. It seemed to British Midland management that the GDSs offered limited opportunities for them to differentiate their airline from competitors. As a direct result of the large stake-holdings that major carriers have in the GDSs, their owner airlines are free to introduce GDS functions that suit their products and differentiate them from their competitors. These airlines can therefore use their GDSs as a means to steal a march on smaller niche competitors by introducing highly customized and specific new functionality; and not all of these new functions deliver differentiators that suit British Midland. So, in this environment, carriers like British Midland could only play a 'catch up' game and this was deemed unsatisfactory within the company. A new distribution channel like the Internet offered British Midland the opportunity to set standards for others to follow and thereby achieve a leadership position.

A number of associated business challenges were faced by British Midland management, not least of which was increased competition. Low cost start-up airlines, such as EBA and Easyjet, were getting established sooner than had been expected. These posed a threat to British Midland's core business – the domestic UK market. Also, in terms of competition, the Eurostar service to Paris and Brussels was beginning to threaten important parts of the company's European business. Other operating issues arising from the complexity of processing airline tickets and the ensuing congestion occurring in airport terminals with insufficient check-in counters, also needed to be addressed. Facilities such as this are expensive because of the high ground rents charged by airport authorities and the need for tight security. But as far as these two issues are concerned, there appears to be light at the end of the tunnel in the form of electronic ticketing (see Chapter 3). With electronic ticketing, the physical security and delivery problems associated with ticket issue could

well disappear and airport check-in could be largely automated with self-service machines. So, with the dual pressures of increased competition and rising operating costs, the time seemed right for British Midland to consider a fundamental change in the way its product was distributed.

The main thrust of any new distribution method was not to take business away from travel agents but rather to relieve the pressure on in-house telesales units by giving customers an alternative to the telephone as a means of making bookings. In other words to go after independent travellers who would normally have telephoned British Midland and enable them to use a more efficient channel that could be serviced by electronic means. After all, travel agents cannot derive an enormous commission from low-value tickets without reducing their cost of sales. So, channelling these ticket sales via an automated route would not adversely affect the travel agency business. Nevertheless, it was recognized that CyberSeat could erode some of the value-added services offered by travel agents. The impact was, however, considered to be relatively small, especially in the early days of any new system.

In considering alternative distribution channels, the Internet appeared an attractive medium. Despite its relatively low numbers of users, its rate of growth was phenomenal and its potential for travel services was considerable. It embodied a comprehensive set of technological standards that reduced the risk of developing redundant applications. Also, there were a range of packaged software tools that could short-cut the development and implementation process. British Midland decided to experiment with the Internet route, but first of all set some important ground rules. The amount of investment in the preliminary system would be minimal and it would have to be up and running very quickly. The business to be targeted by this new channel was the high volume sales of straightforward airline tickets rather those with a higher price tag. This prompted management to start addressing the complexities associated with using the Internet as a commercial distribution channel. Complexities such as: (i) the geographical product distribution issue, and (ii) the potential security risks of taking payment over the Internet without being able to capture either a

customer's signature or a card imprint. These two issues are worthy of some further analysis:

- **Geographical issue** Because the Internet is a global channel, it means that ticket prices must be set on a global basis. Instead of tickets for a flight being priced for the specific economic dynamics of each origin market, they needed to be set globally for all markets. This in turn means that foreign currency exchange rates need to be factored into the equation. It also means that, in the absence of electronic ticketing, physical ticket delivery to overseas customers must be available. For example, a customer traveling to the UK from a foreign destination, such as the USA, with a stop-over in France, would need to be able to collect their ticket to the UK from an airport in Paris. This resulted in a new set of procedures being developed by British Midland to support CyberSeat.
- **Security issue** The next issue was: 'How should payment for air tickets be processed over the public Internet infrastructure?' This issue was carefully considered and it was decided to: (a) only support secure Internet browsers, which incorporate SSL encryption technologies; and (b) to send critical payment fields, e.g. credit card numbers, expiry date and cardholder's name, across the Internet in separate encrypted messages. In this way, even if one of the messages were to be intercepted, not only would it be encrypted but it would only represent a part of the information needed to record a financial transaction. Finally, besides these Internet security devices, British Midland's CRS system is protected by a further three levels of security.

After much deliberation, investigation and research, all of the issues and obstacles were successfully overcome and the Internet route was finally decided upon. British Midland decided to use a multi-media reservations server using Netscape's Commerce Server as the back-bone for the new service. This would be the world's first airline booking system for the Internet with full on-line payment functions. Management decided that this would need to be compatible with future technologies such as interactive television and would of course have to support electronic ticketing and

self-service check-in at airport terminals. An important requirement was that the system should be capable of building and maintaining a customer data base for marketing purposes. As previously mentioned in the above section on marketing on the Internet, this is a fundamental success factor in maximizing *pull marketing* opportunities. Before proceeding with the development, British Midland tested the market by undertaking a survey of their 'High Flyer' club members. This produced encouraging results. They found that around 21 per cent of their customers used the Internet regularly and that 72 per cent used electronic mail.

Following a review of the technical options available, British Midland management decided to develop an interface from its CRS to the World Wide Web. This would provide last seat availability and access to the latest fares, as they are introduced. Several years ago, British Midland decided to outsource its CRS operation to British Airways and use the RTB main-frame computer facility located at Heathrow. It is from the co-hosted RTB CRS computer that British Midland connects into GDSs like Galileo and Sabre (see Chapter 4). British Midland chose Novus, a Guildford-based international group of companies specializing in airline and other travel technologies, to help it develop its Internet channel. Novus developed CyberSeat to run on an IBM RS/6000 server that also uses DEC Alpha hardware, in a UNIX operating system environment. This is integrated with several Internet software products including:

- **QUICKseat** A seat booking application originally designed for the leisure market and developed by Novus. It is a tried and proven software product that has been used by several major carriers to distribute their air reservations products via videotex.
- **Novus Managed Internet Transaction Server** A software product that supports the development of commercial distribution products over the Internet. It makes the development process simpler and faster by the widespread use of proven sub-systems.
- **Netscape's Commerce Server** A software product that provides a secure environment for supporting commercial transactions with functionality to communicate with remote Internet

- browsers. It also provides the core data base platform for new future Internet applications.
- **Novus Reservations Server** This is a key product that enables the user to interact with British Midland's CRS without having to understand the complexities of codes, transaction entries and travel industry jargon fully, all of which are an inherent part of airline main-frame booking systems. It provides: (i) easy to use format conversion routines for the translation of EDI and Internet-based protocols; (ii) rapid response times, using techniques such as the simultaneous processing of outbound and return flight segments; and (iii) provides resilient fall-back support in the event of RTB host line failure.

The server acts as a front-end processor between the British Midland CRS running on the RTB computer, and the Internet. Although the primary interface technology of the new server was based on TCP/IP, i.e. the Internet communications protocols, it would also be relatively easy for British Midland to also support emerging technologies like interactive television. The base application was kept as simple as possible and, for instance, supported full booking and payment but purposely excluded any booking changes because of the complexity of this function. Instead, customers were requested to cancel incorrect bookings and re-book. Despite obstacles such as a two to three week site registration process and following a two-months' development programme with only limited funds, CyberSeat was launched on the World Wide Web in late 1996.

CyberSeat contains a full range of booking and payment functions as well as a great deal of relevant information. Information that includes British Midland's domestic route network, its international route network, Diamond Service, Diamond Euroclass Service, Diamond Club, High Flyers, Timetables, frequent flyer information, phone reservations and customer feedback facilities. To use the CyberSeat Internet service, users proceed as follows:

1. Consumers first of all access the Internet using their PCs, modems and Internet service provider (ISPs) and open the site at <http://www.iflybritishmidland.com>.

2. Once the British Midland home page is displayed, the users click on the blue oval CyberSeat logo. This takes them to the CyberSeat front page (Fig. 5.30) via a hypertext link.

At this stage the users need to ensure that they are using a suitable browser that must be, for example, Netscape Navigator Version 1.2 or higher. A help button allows users to access more information on what browsers and versions are supported by CyberSeat. This also allows users to download the latest version if desired.

3. From the CyberSeat front page, first time users or those unfamiliar with the site, may select the Easy Book button. More experienced users have the option of choosing the Quick Book button, which provides more functions.

- *Easy Book* The user views the map displayed on the ensuing Web page which shows all British Midland's routes (Figs 5.31, 5.32). The users click on the origins and destinations of their intended journeys. Outward and return dates are keyed in.

At this point the users may either choose to search all available fares or request the system to find the cheapest fare for the origins and destinations specified. The desired fares may be selected by entering the number of seats required followed by a simple click operation to confirm (Fig. 5.33).

- *Quick Book* The users enter their places of origin and destination cities, travel dates and number of passengers. This results in CyberSeat displaying a table of flights.

The users view the available flights from the table and may investigate each option in more detail. Eventually, a flight is selected for each booking (Figs 5.34 and 5.35).

At this point CyberSeat asks the users to enter their credit card details and to confirm that they wish to purchase the flight selected.

The users then select how they wish to receive their tickets. This can be: (a) by post to their home addresses (provided the booking is made at least seven days in advance); (b) by collection at the airport, i.e. ticket on departure; or (c) by collection from the customers' travel agents (in which case booking references are quoted).

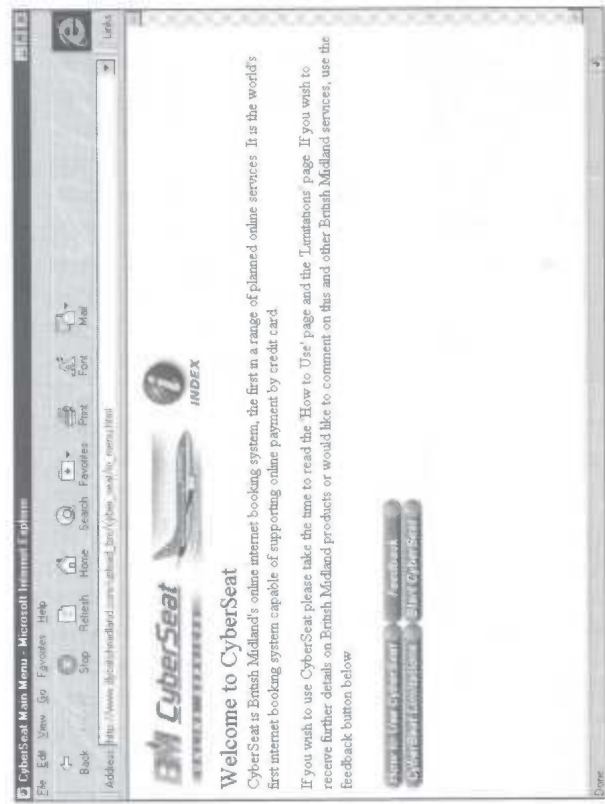


Figure 5.30 The CyberSeat home page (above)



Figure 5.31 Destination map (above right)

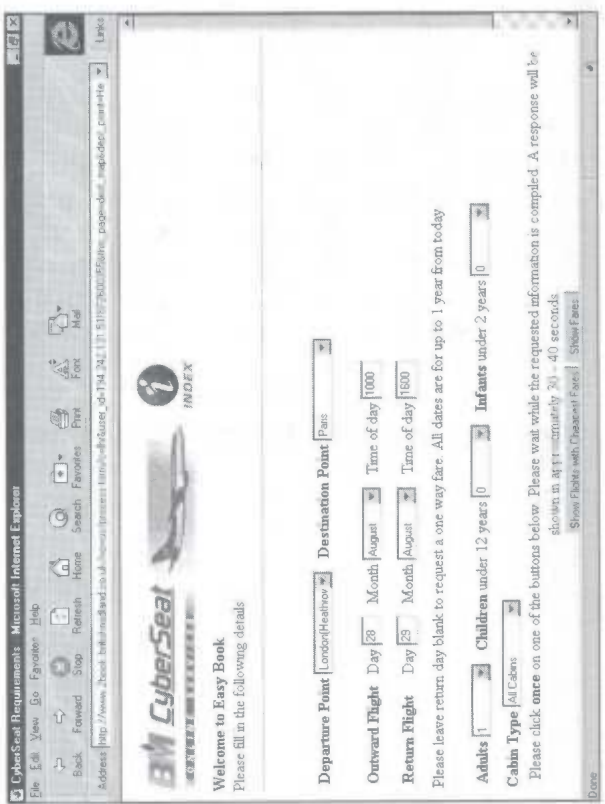


Figure 5.32 Reservations request details

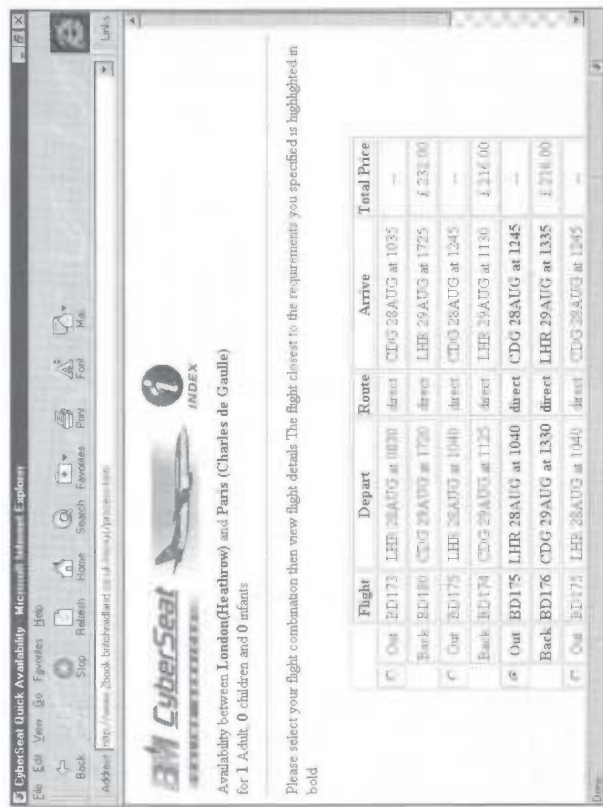


Figure 5.33 Fares (above)
Figure 5.34 Flight details (above right)

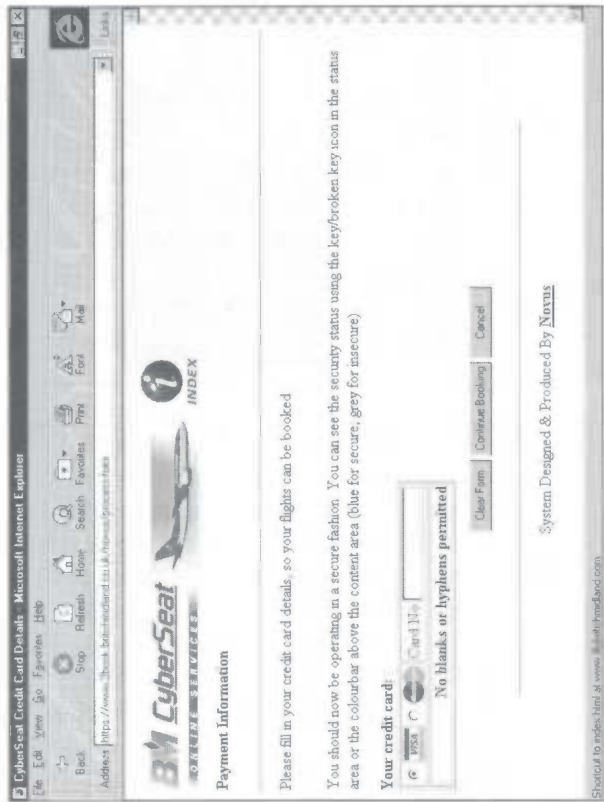
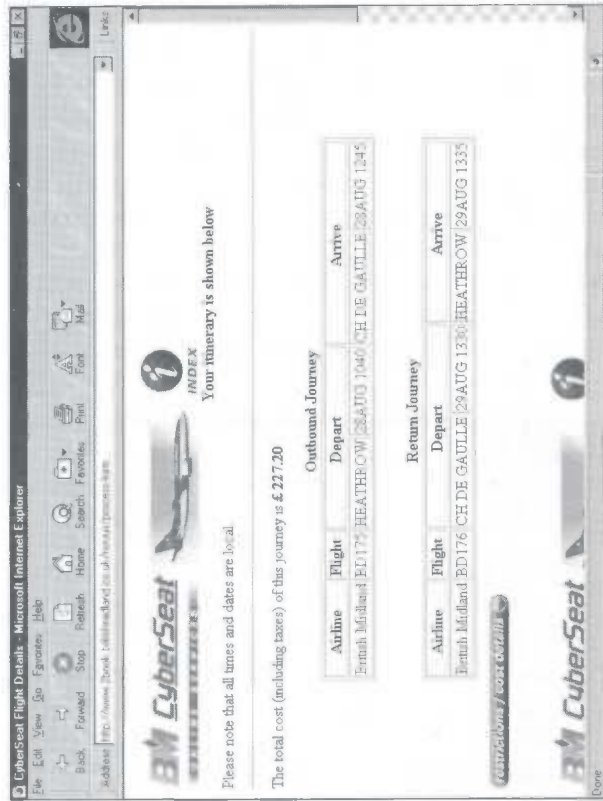


Figure 5.35 Booking screen

CyberSeat proved highly successful and became renowned as the first direct Internet booking system to be developed by an airline. It achieved 5,000 site visits per week and 400 bookings per month against an upper target of 750 bookings per month. This was regarded as particularly successful bearing in mind that electronic ticketing was not available at the time, which meant that ticketing had to be carried out mainly on a 'ticket on departure' basis. Interestingly, it was found that most of these bookings were made by regular frequent British Midland flyers who were making retail bookings. But being an early adopter of the new Internet airline booking technology, British Midland learnt some valuable lessons that could not have been derived from any other sources, such as textbooks, or the prior experience of others:

- First, British Midland underestimated the overwhelming response from customers in the form of e-mail. They received between 250 and 500 e-mail messages each day following the site launch. Most of these were as a direct result of people's interest in CyberSeat. The variety of these e-mail messages was found to be extremely varied. This posed a significant challenge to British Midland whose staff at the time had little experience of dealing with e-mail. It quickly became clear that these e-mail messages had to first of all be categorized and then dealt with by specialists in several areas.
- It was also found that most of the site hits were received over the weekend, mostly on Sunday. This was only natural bearing in mind the cheaper BT rates for local calls outside normal business hours. However, it meant that British Midland had to direct Novus to provide out-of-hours Web site operations coverage in order not to disappoint its customers with the risk of down-time.
- Another finding was the variety of browsers that site visitors were using. For booking and payment functions, British Midland had decided to standardize on browsers that incorporated a high level of security. These were invariably the latest versions of browsers available at the time. Many site visitors were using old versions of browsers that did not support secure encryption and these could not use the

CyberSeat payment functions. In this context, users of Compuserve encountered particular browser incompatibility problems in the area of security. An option was therefore provided to allow users to download the latest version of Netscape's browser (a similar download service is also supported by Microsoft via its own Internet site).

- Originally, CyberSeat asked users to register before being able to browse the site. However, this proved cumbersome and instead, users were only asked to identify themselves as part of the booking and payment processes, using the details of their plastic cards.

Looking to the future, British Midland has been able to build on the success of its CyberSeat experience to plan ahead. It is considering a travel agent product that could be based on a new Intranet approach. In effect this would encourage travel agents to book British Midland via the Intranet instead of using their GDS connections. The Intranet would also have several other important spin-off benefits within the company, such as changing the culture to increase staff empowerment levels, increasing team working, fostering more open communications and sharing corporate information more widely and easily.

MARRIOTT

Marriott has been highly successful in using technology to market and sell hotel rooms and related services to customers around the world. The cornerstone of this distribution activity is Marriott's central reservation system, MARSHA (you can find more information on MARSHA and Marriott's interconnection to GDSs in Chapter 3). The latest version of MARSHA, known as MARSHA III, incorporates the functionality necessary to support Marriott's new Web site, which may be found at <http://www.marriott.com>. This is a popular Web site that was launched in 1996 and regularly receives millions of hits each month. These hits generate over US\$1 million per month in hotel revenue and consequently rank Marriott within the world's top 5 per cent of all Web sites. The growth rate is also startlingly high at 100 per cent compound, month on month.

Marriott has been highly successful in using the GDS and HDS networks to distribute its accommodation services to travel agents around the world (see Chapter 4 for more information on GDSs and HDSs). This is illustrated by the fact that one in every five GDS bookings is for a Marriott lodging product. However, things do not stand still for very long and Marriott is faced with a rapidly changing distribution market, just as other travel industry suppliers are. The forces for change that are most relevant here are: (i) industry studies are forecasting that the number of travel agents will decline over the next few years, particularly in the USA; (ii) the Internet clearly has significant and proven potential as a distribution network for direct selling to consumers; and (iii) GDS booking fees cost several USA dollars per confirmed reservation, whereas the equivalent cost to make a booking on the Internet could be considerably less.

Alternative distribution channels other than GDSs therefore became a hot topic at Marriott a couple of years ago. The Internet was found to be especially attractive because it would enable Marriott to convey the details of its properties to the consumer in an interactive graphical way using pictures of properties and rooms, videos and virtual reality models, diagrams of floor layouts and maps of how to get there. Quick time virtual reality (QTVR), developed by Apple computers, makes use of 360° imaging technology, which enables a potential customer to actually look around the room they are considering booking by simply using a computer mouse. Also, the Internet's potential for direct relationship marketing was a powerful reason behind the company's decision to embark upon an Internet experiment. This resulted in Marriott's first World Wide Web site, which cost approximately US\$1 million to develop and implement. By building on the success of this initial site, the development of subsequent versions has increased Marriott's Internet expenditure considerably.

Before its site could be created, Marriott had to overcome a significant technical architectural challenge. Its MARSHA system is based on operating software called transaction processing facility (TPF), which runs on an IBM main-frame. This is totally incompatible with the TCP/IP communi-

cations protocols used by the Internet. Although it was relatively straightforward for Marriott to connect an interface server to MARSHA for text, graphical images and information management, the reservations functions were another matter. To build its own Internet booking engine with an on-line interface to MARSHA could be done from a technical viewpoint, however, it would be quite costly. Marriott decided to postpone this major development until: (a) the demand for access to these functions increased, and (b) Marriott understood more about using the Internet as a marketing and booking channel. So, in the meantime, what was the answer to Marriott's Internet booking problem? Well, the answer was a very pragmatic decision taken by Marriott management, which was to use the Cisco hotel switch as the interface to MARSHA. The Cisco switch (which is explained in more detail in Chapter 4 in the section on distribution systems), was designed with an in-built capability to handle both TPF links to hotel systems and, via its TravelWeb booking engine, TCP/IP for Internet traffic.

So, Marriott's Web site is based on multiple Internet servers, located at its USA headquarters, that connect directly into the World Wide Web via the UUNET/Pipex ISP. (Fig. 5.36). These servers handle all incoming Internet traffic for www.marriott.com and respond directly to all information requests. They are fed with information from two sources: (i) a link to the MARSHA system that supplies information on such items as property descriptions, room rates, hotel addresses, facilities and so on; and (ii) other input supplied by picture scans, graphical images and mapping systems as well as some HTML text maintained by Marriott staff. However, when an Internet user wishes to view availability or make a booking, the server routes the enquiry via a third route – a direct connection to TravelWeb. Messages passing down the direct connection to the TravelWeb Internet booking engine are routed to the Cisco switch, which passes them on to MARSHA. The MARSHA system checks its room inventory data base and formulates a response, just as though it was a regular Cisco/TravelWeb reservation message. However, in this case the response is routed back to the Marriott Internet Web servers which route the message to the consumer. It may sound

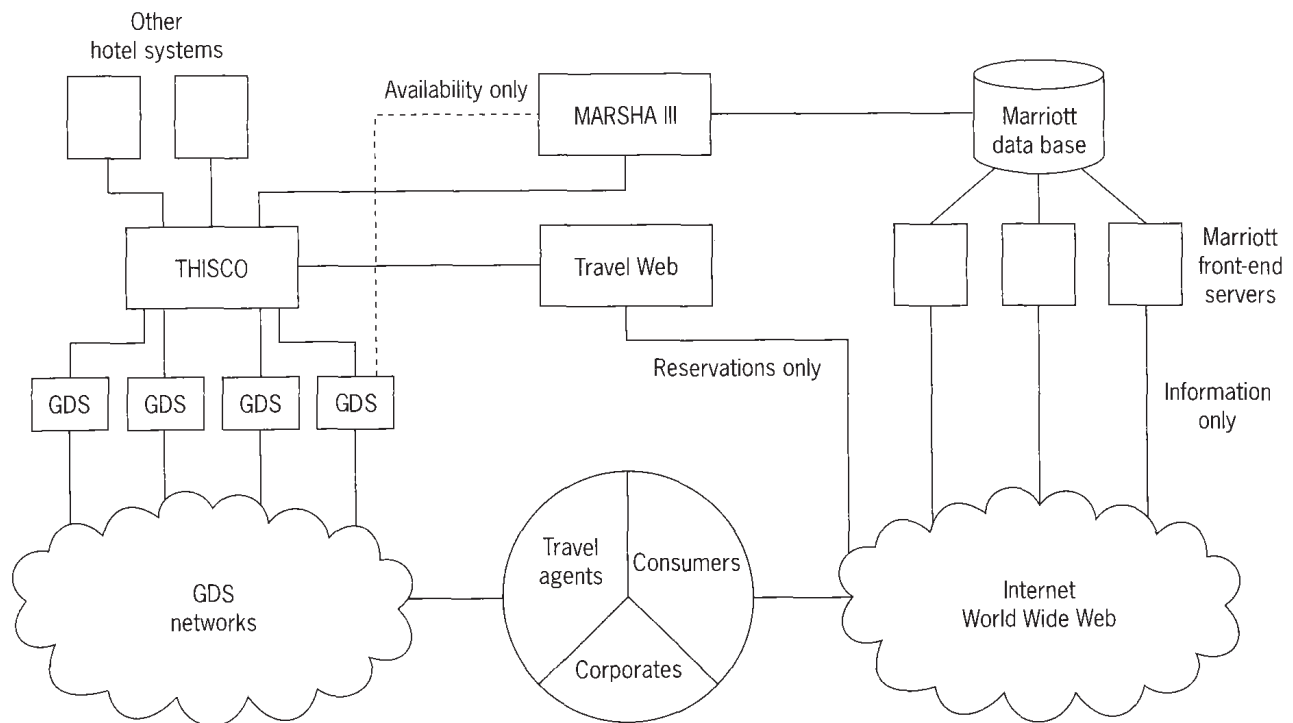


Figure 5.36 Marriott's internet connection

like a rather convoluted route but it still only takes between 2 and 3 seconds for MARSHA to respond to an Internet booking request with a confirmation number.

The beauty of this approach is that it maintains the stand-alone integrity of Thisco and TravelWeb. Neither of these systems need to hold a data base of rates or rooms. All data and inventory records continue to be held by MARSHA. This is an important point because it eliminates any problems that would undoubtedly arise from duplicating Marriott's hotel information on other servers. Another benefit is that it saves Marriott from having to develop a complex and costly booking interface to MARSHA. Having said this, if the volume of traffic handled on Marriott's Internet site grows substantially, then it may, at some point in the future, become attractive to develop a direct interface such as this. Only time will tell if this is economically feasible.

Besides being able to handle on-line consumer bookings automatically, there is one other important benefit of Marriott's Web site that I would like to explore in a little more detail. This is the production and distribution of printed brochures

or what people in the industry call 'Collateral'. The kinds of brochures I am talking about here are not just restricted to a property flyers containing pictures and general descriptions. While these standard documents obviously exist, there are many more customized brochures that are printed specifically for corporate clients. These brochures include the usual pictures and descriptions, but they also contain a lot more. They invariably contain a full set of room rates that have been negotiated especially for the corporate company. Taken on a global scale, these brochures cost a small fortune to print and distribute. They also have a short shelf life. In other words because rates change and facilities are updated, the brochures quickly become out of date and must be scrapped. Not only is this a waste of the world's resources but it is also very costly. The Internet offers a solution to this problem.

Marriott views Internet sites as falling into one of three possible categories: (i) Shopping Malls, (ii) Supermarkets and (iii) Boutiques. The Shopping Malls are large sites that provide access to all kinds of suppliers; a particularly good example is Microsoft's Expedia. Supermarkets are sites that

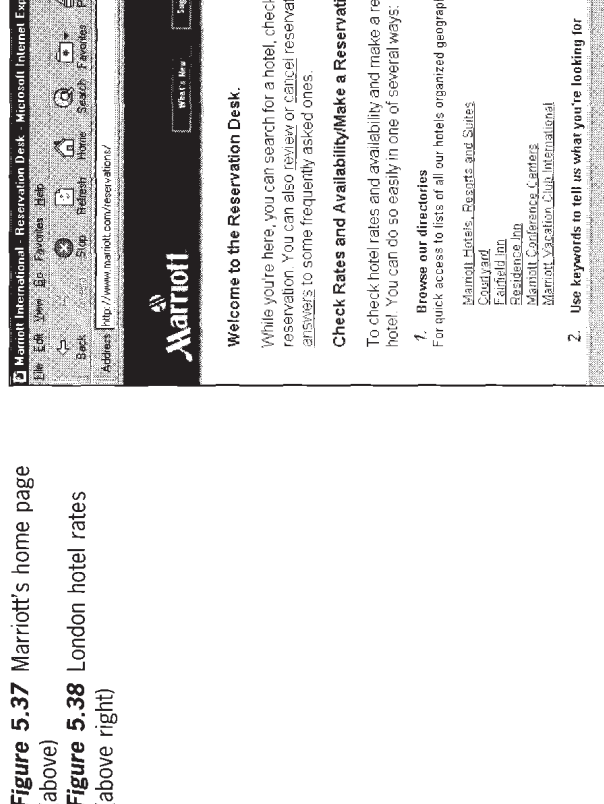
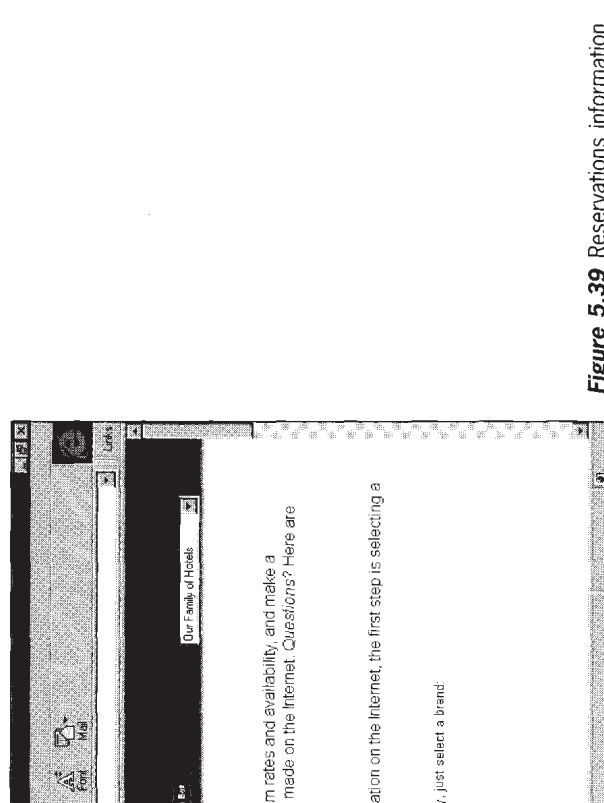
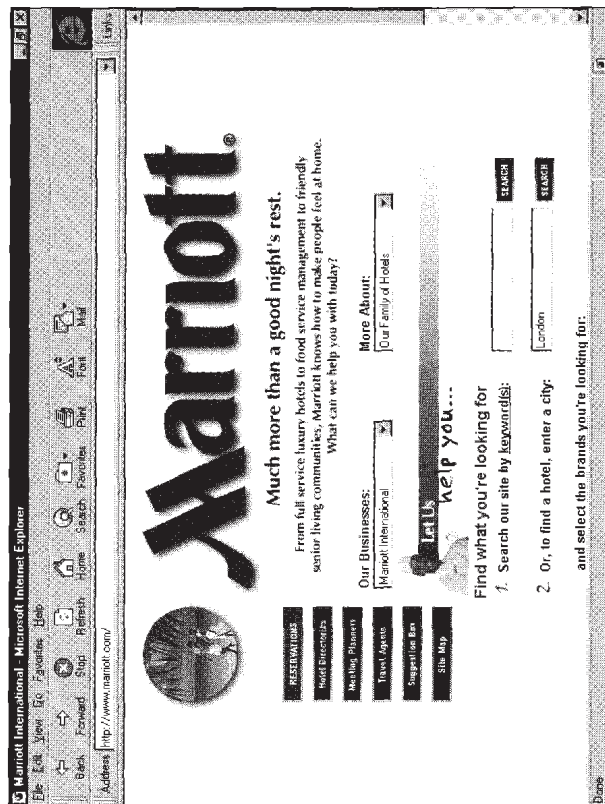
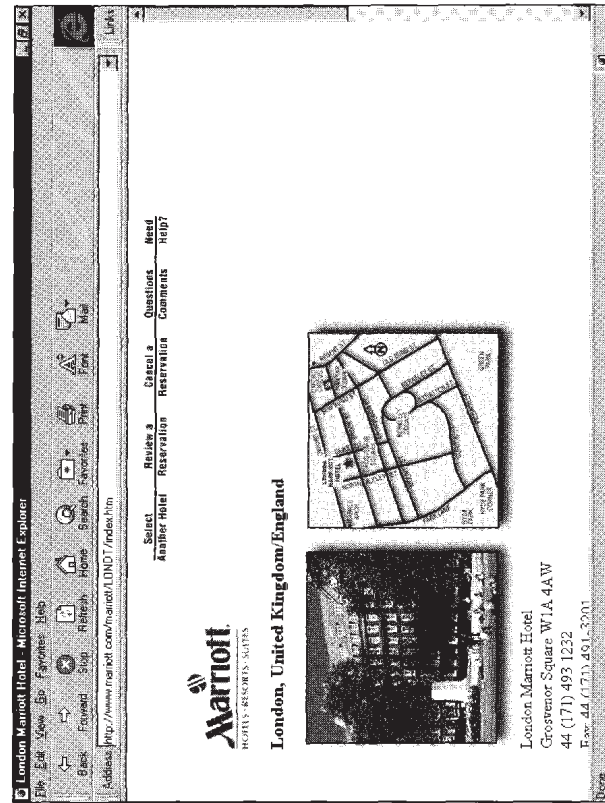


Figure 5.37 Marriott's home page (above)

Figure 5.38 London hotel rates (above right)

Figure 5.39 Reservations information