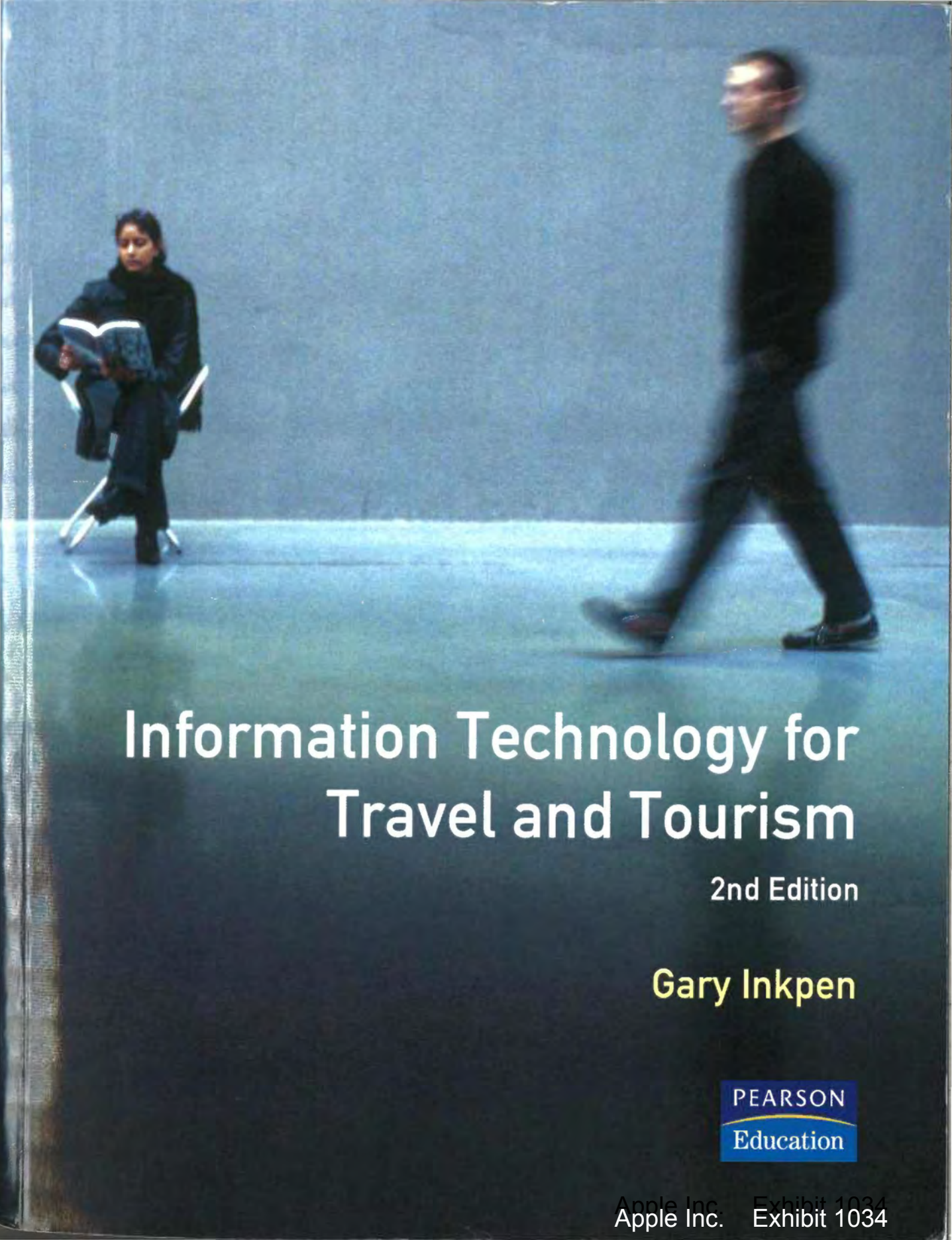

Information Technology for Travel and Tourism

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Gary Inkpen

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5
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.

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)

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 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, its 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 themself 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

Booking fee analysis		*Supplier pays booking fees or commission to:*		
Booked by:	*Booked via:*	*Travel agent*	*GDS*	*New intermediary*
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 holidaymakers 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 themself 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

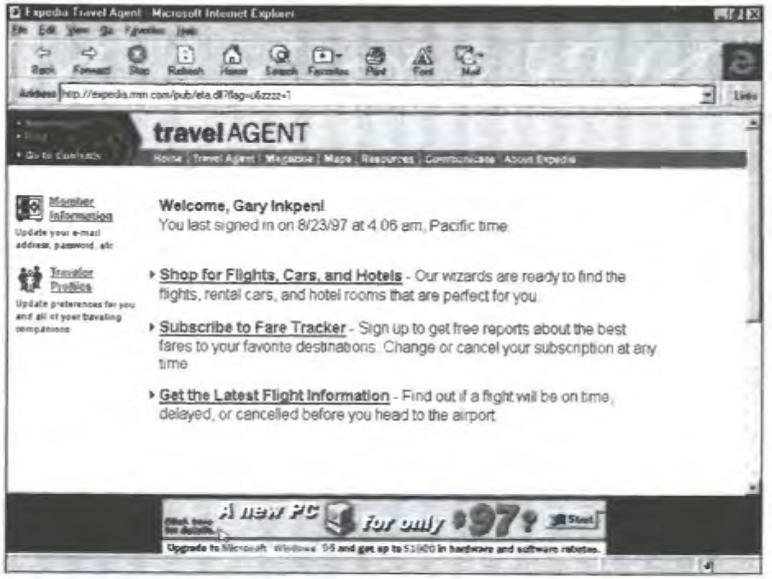


Figure 5.2 The Expedia home page (above)
Figure 5.3 The Travel Agent page (above right)

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.

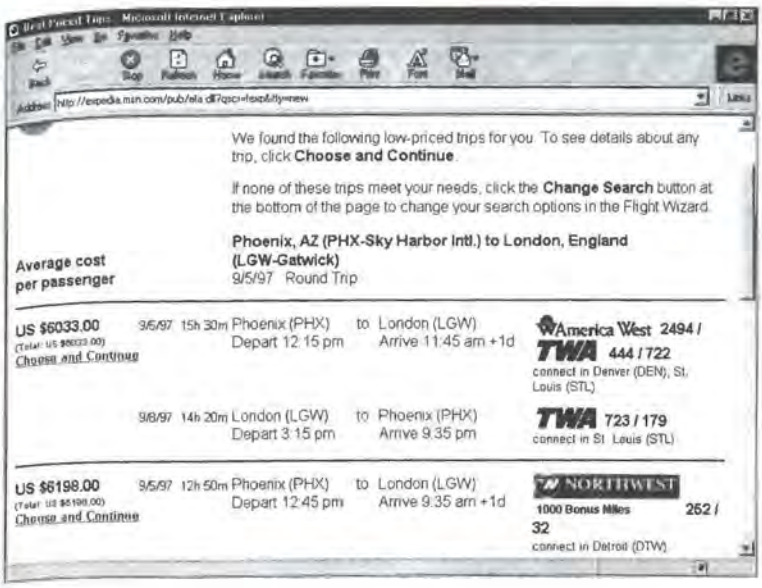


Figure 5.5 Flight Wizard – more flights (above)

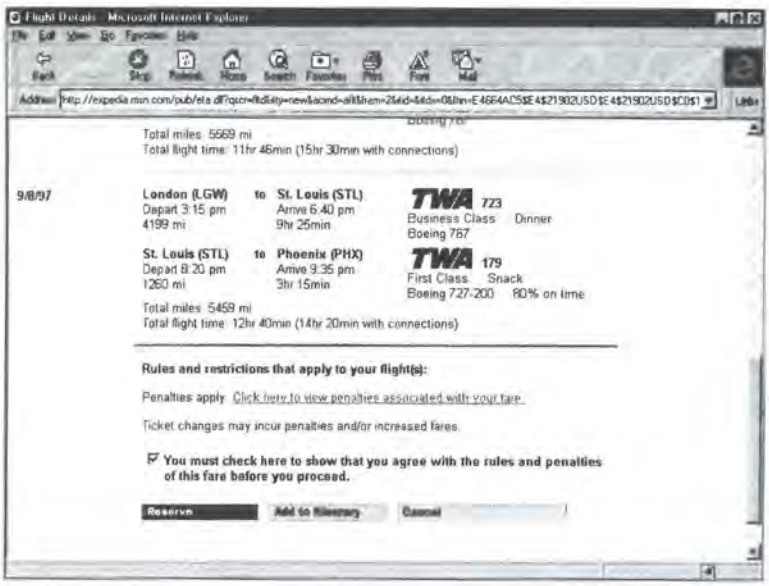


Figure 5.5 Flight Wizard – check to accept

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

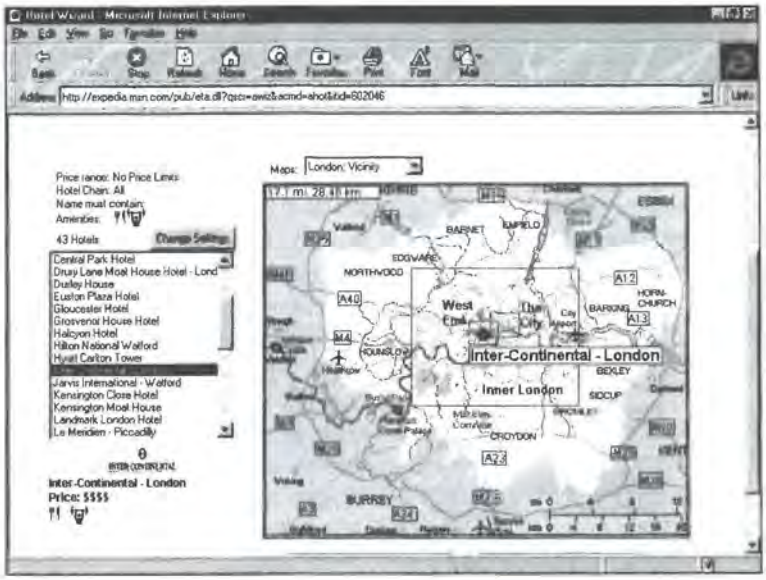


Figure 5.7 Hotel map – wide scale

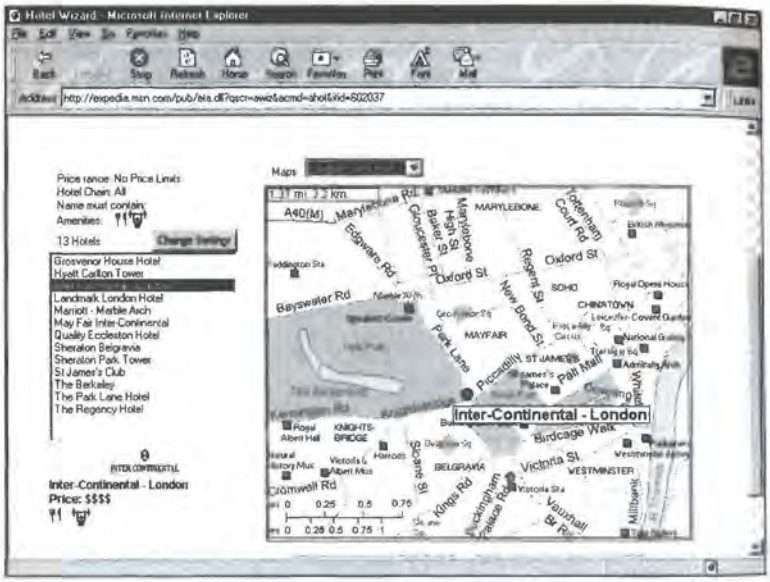


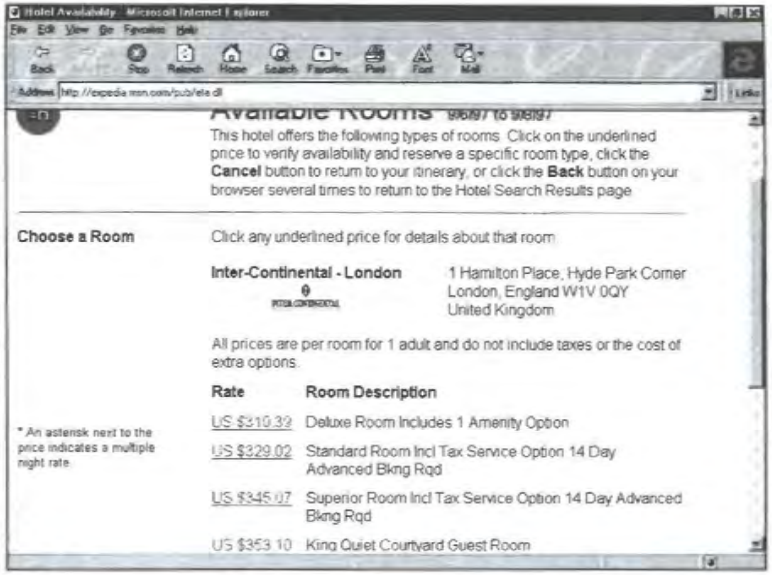
Figure 5.8 Hotel map – zoom

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



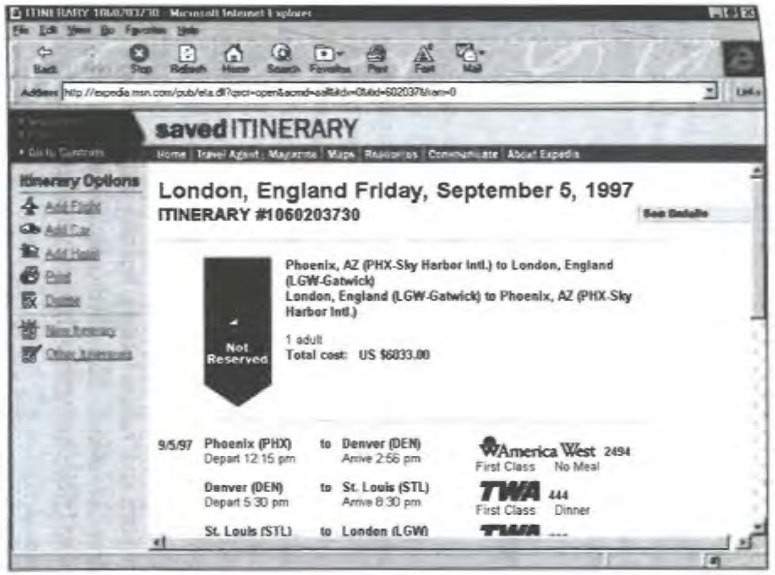


Figure 5.9 List of rooms and prices (above)
Figure 5.10 The itinerary (above right)

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

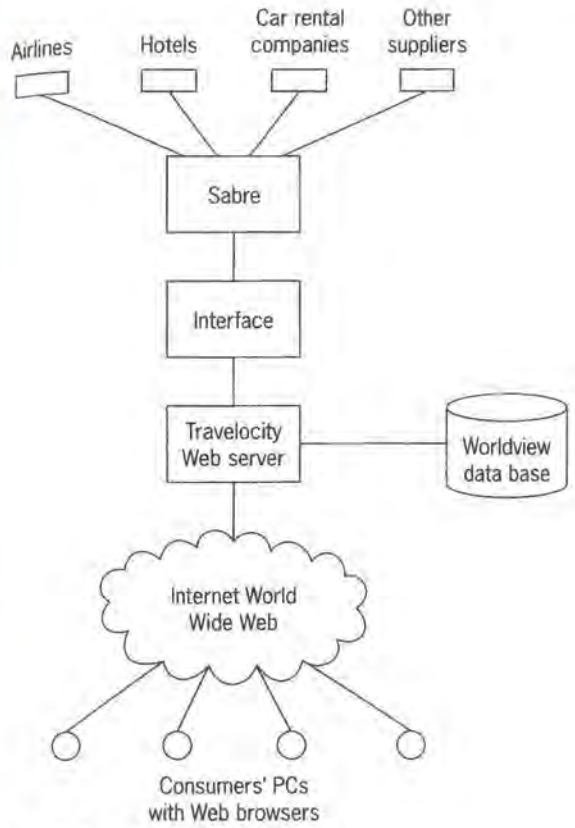


Figure 5.12 Travelocity diagram

of Travelocity are explored in more detail in the following paragraphs.

The consumer-facing side of Travelocity

Travelocity is a USA Web site that offers full access, on a controlled basis, to the Sabre system and is controlled by the Sabre Interactive subsidiary within The Sabre Group (see Chapter 4 for more details on Sabre's corporate structure). This site provides services that may be generally grouped under four main headings: travel reservations, destination information, chats and forums, and merchandise; each is explored below.

Travel reservations

To make a booking on Travelocity the user enters or selects the destination city involved in their itinerary. The user then enters other pertinent information, such as the number of travellers, company preferences and special rates that apply. Based on this information, Travelocity displays several choices. Additional details on rules and rates may be viewed before finalizing the booking. Travelocity then creates a detailed summary of each reservation, including a confirmation number received from each supplier. A complete itinerary may be printed at any time. The main products supported are:

- **Air** The link between Travelocity and the Sabre GDS provides unbiased access to over 700 airlines of which direct bookings may be made on 400. Booking information (Figs 5.14–5.17) is automatically linked to a comprehensive data base of destination information maintained by Worldview. The Flightfinder function automatically searches for the lowest available fare between multiple cities and displays the three lowest cost itineraries. There are also diagrams of standard configurations for the most popular aircraft.
- **Hotels** Travelocity provides real-time availability and rate information on over 32,000 hotel properties world-wide. The rates quoted by the participating hotels may include the following types: corporate, family plans, promotional, standard, senior citizen, convention and weekend specials. Certain hotels show street level location maps that are provided by Vicinity Corporation. Others, such as Hilton Hotels Corporation, Marriott International and the Ritz Carlton Company, show colour photographs of their properties.
- **Car** The car rental booking feature of Travelocity provides real-time availability and searches for the lowest rates for more than 50 car rental companies world-wide. A variety of rates can be quoted including corporate and special rates, such as AAA and AARP, which are displayed from the lowest to the highest price. Users may book various types of vehicles, including sports cars and luxury cars.
- **Vacation packages** This shows pre-negotiated accommodation packages together with photos of the destination, the accommodation and the facilities available. Alternative packages are searchable on destination and interest category.

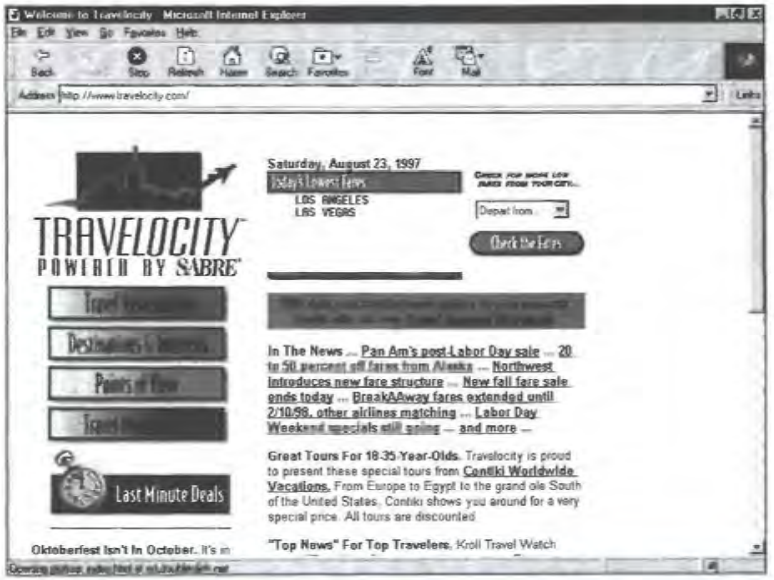


Figure 5.13 The Travelocity home page (above)
Figure 5.14 Travel reservations page (above right)

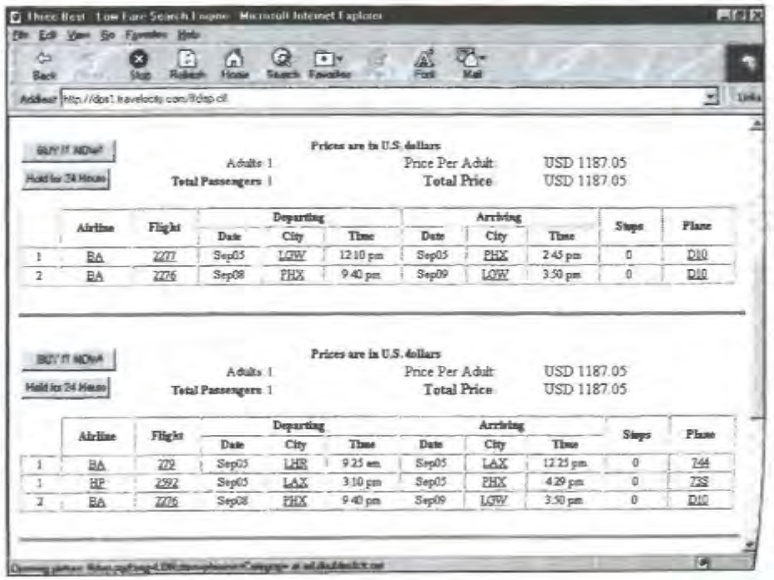


Figure 5.15 Air options page

Figure 5.16 Mapping

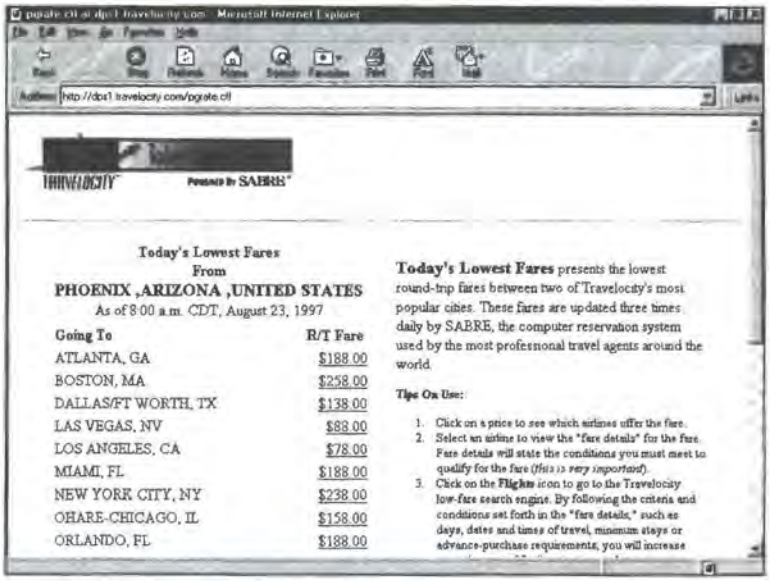


Figure 5.17 Lowest fares

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; Hotelogic 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

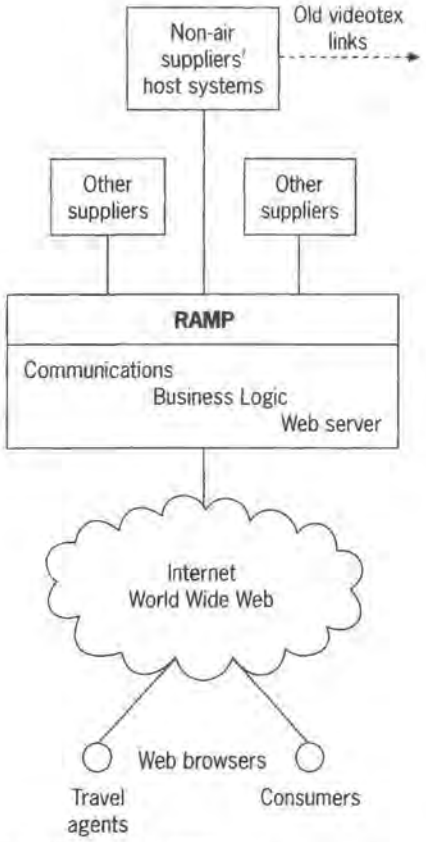


Figure 5.18 Worldspan's RAMP project

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,

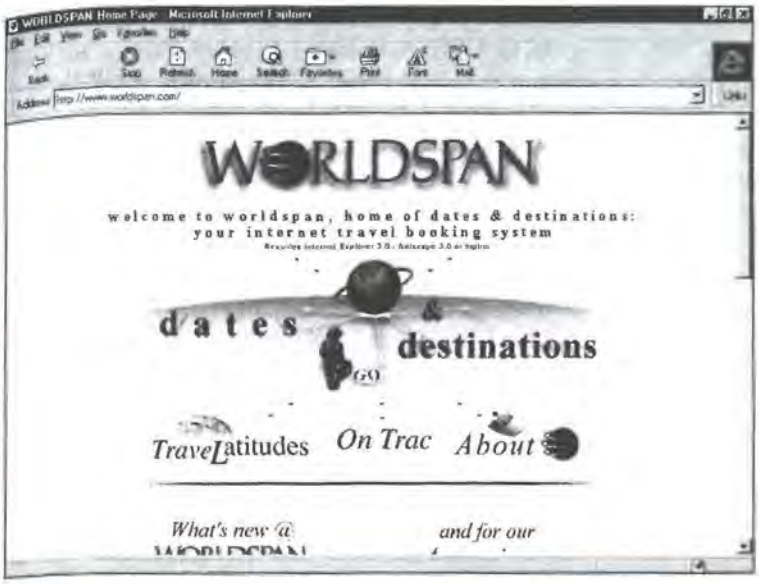


Figure 5.19 The Worldspan home page

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.

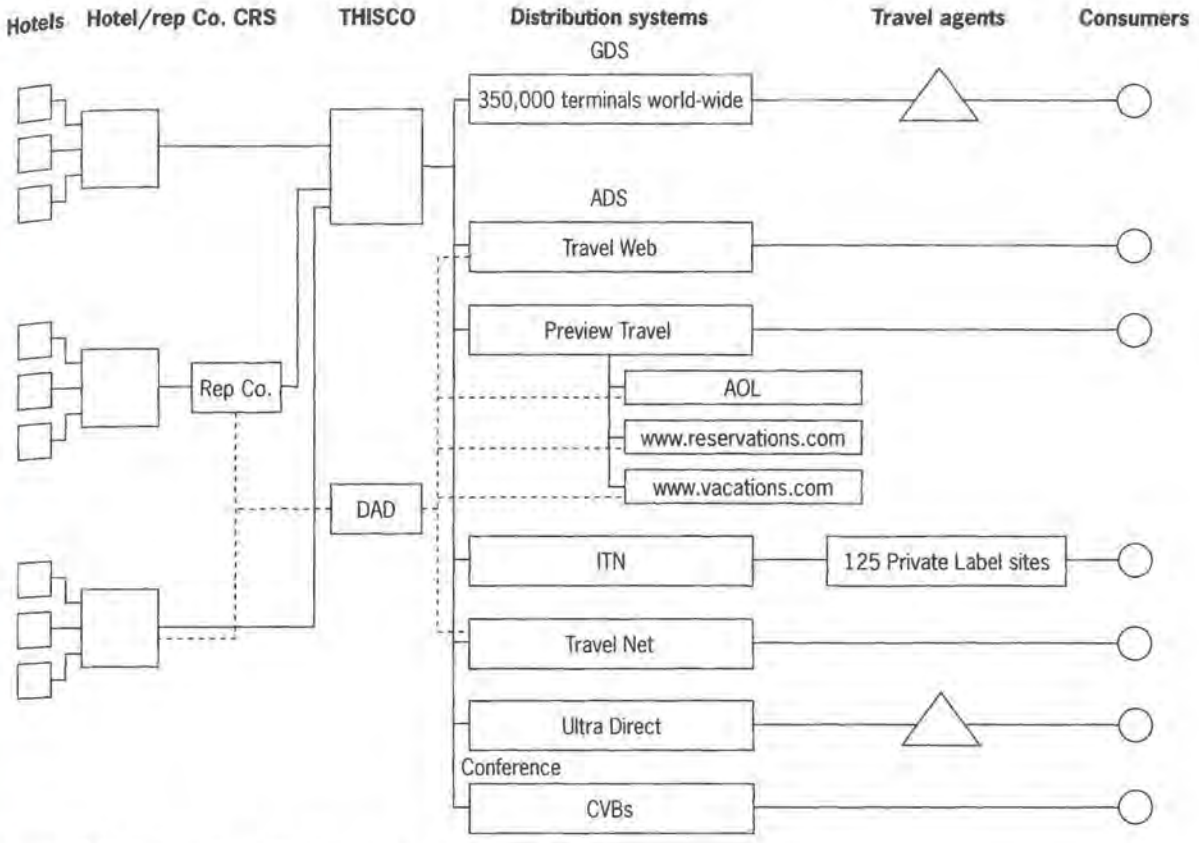


Figure 5.21 Pegasus TravelWeb transaction/processing flow

- **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 subsystem 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

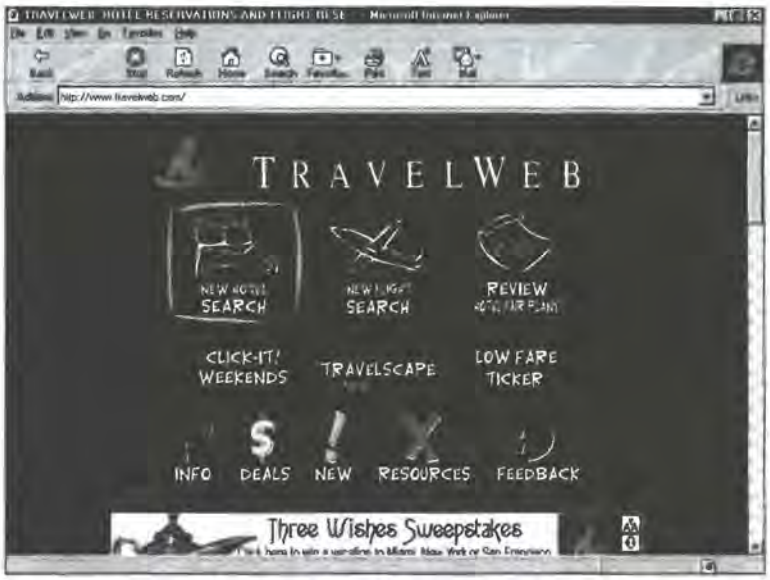


Figure 5.22 The TravelWeb home page

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.

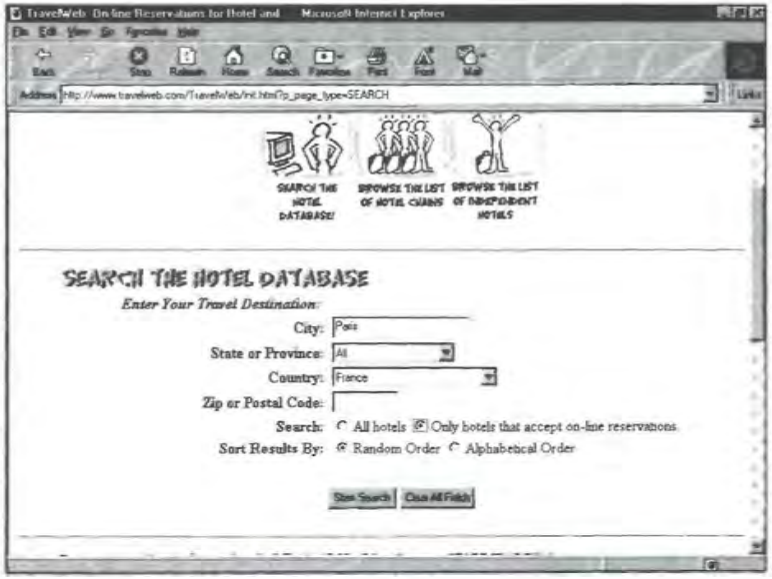


Figure 5.23 Hotel search parameters (above)
Figure 5.24 Hotel search results (above right)

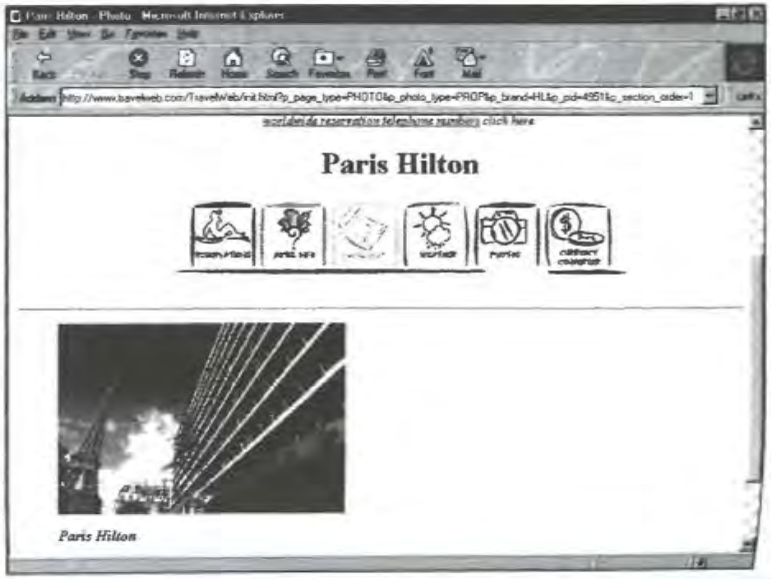
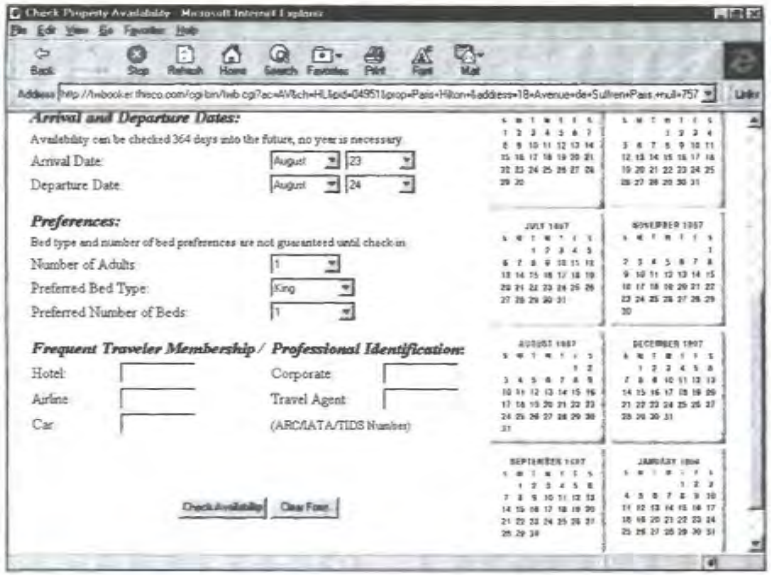


Figure 5.25 Hotel photo



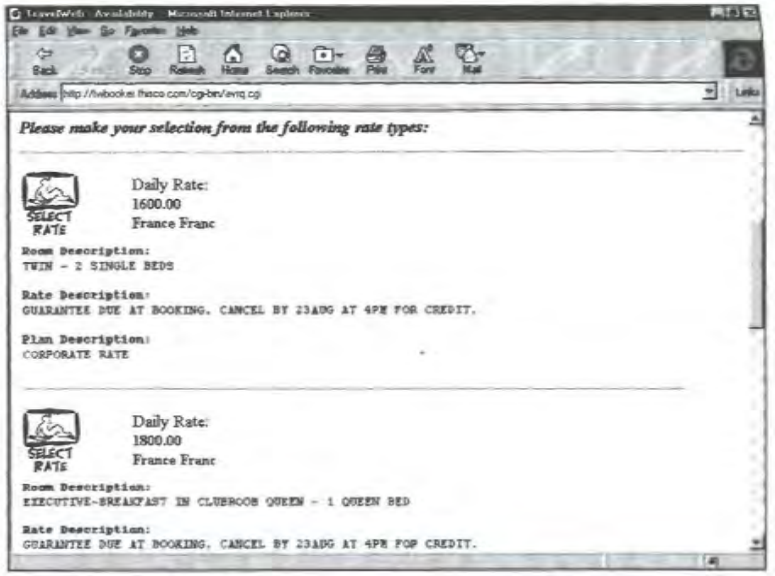


Figure 5.26 Check availability parameters (above)
Figure 5.27 Availability display (above right)

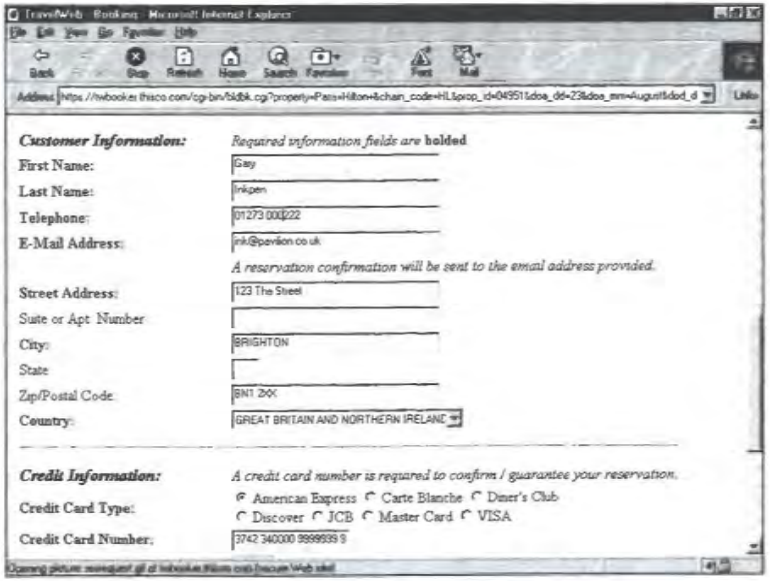


Figure 5.28 Booking screen

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 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.

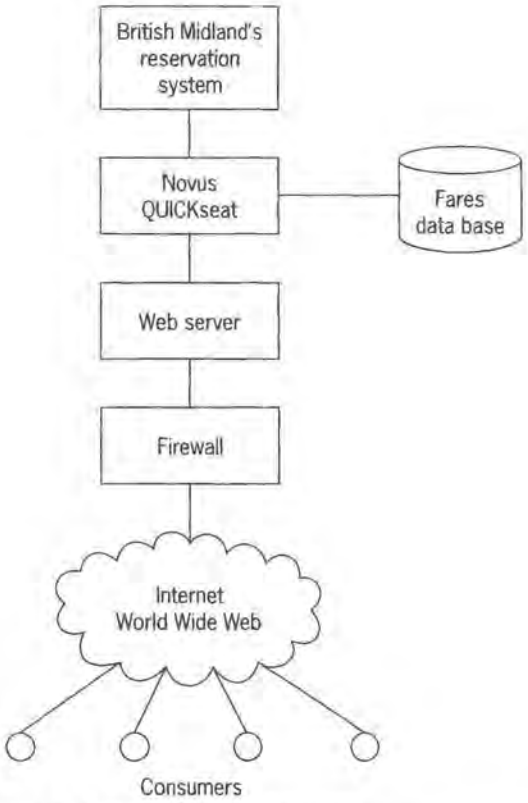


Figure 5.29 British Midland's CyberSeat

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 travelling 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 mainframe 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).

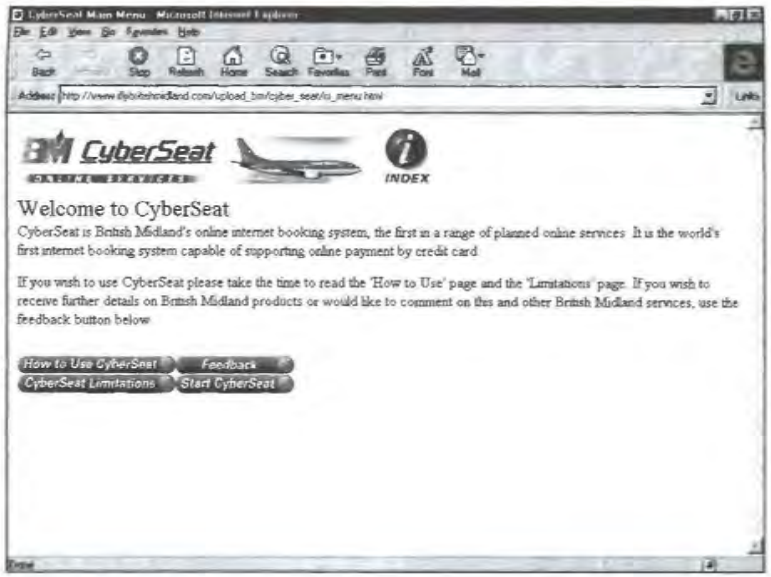


Figure 5.30 The CyberSeat home page (above)
Figure 5.31 Destination map (above right)

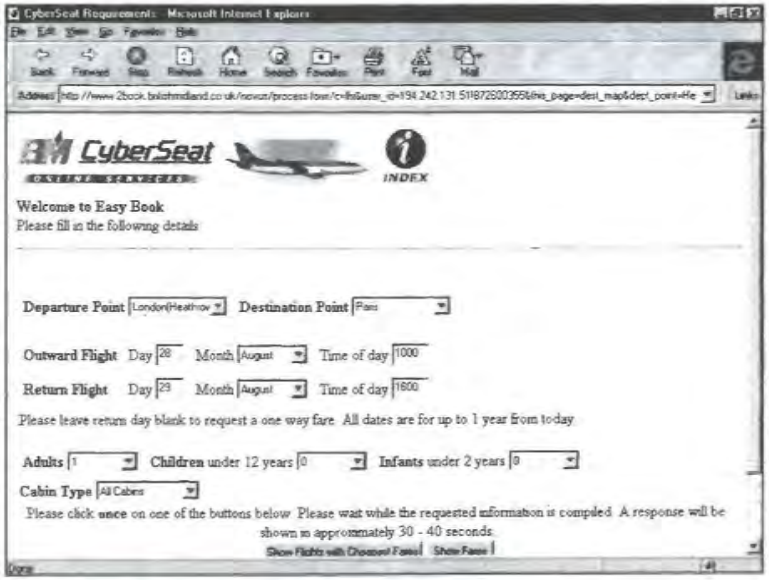


Figure 5.32 Reservations request details

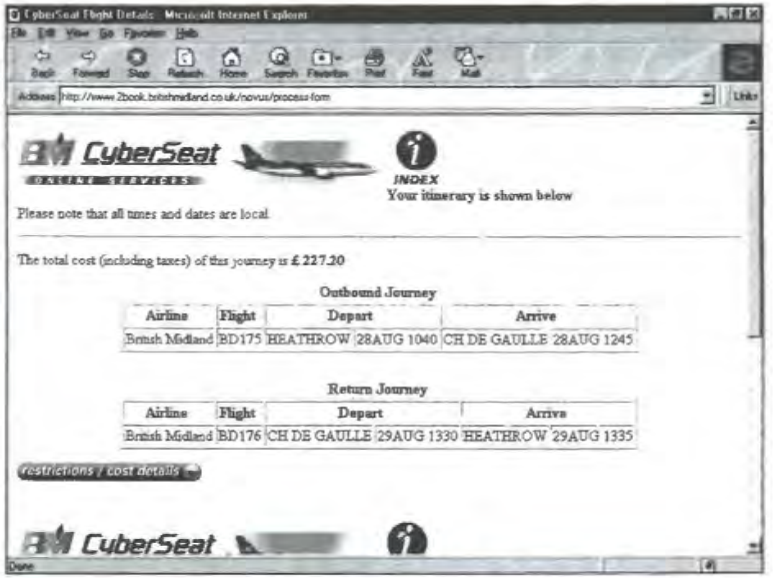


Figure 5.33 Fares (above)
Figure 5.34 Flight details (above right)

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 communications 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 Thisco hotel switch as the interface to MARSHA. The Thisco 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 Thisco 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 Thisco/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

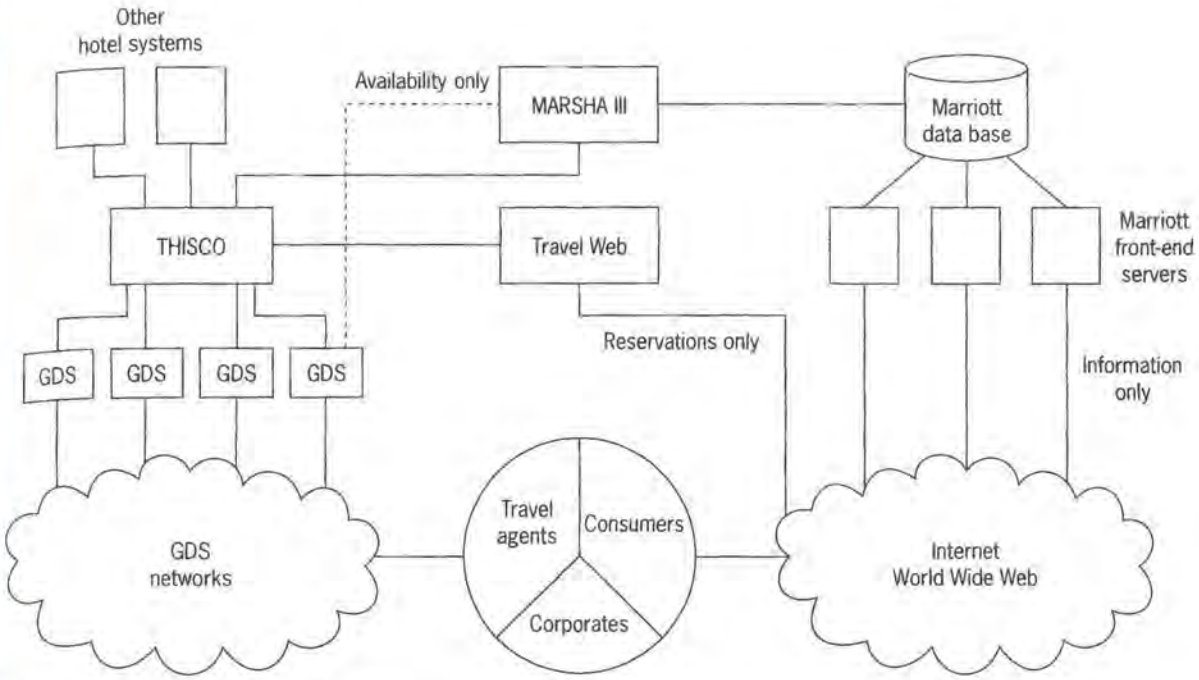


Figure 5.36 Marriott's internet connection

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

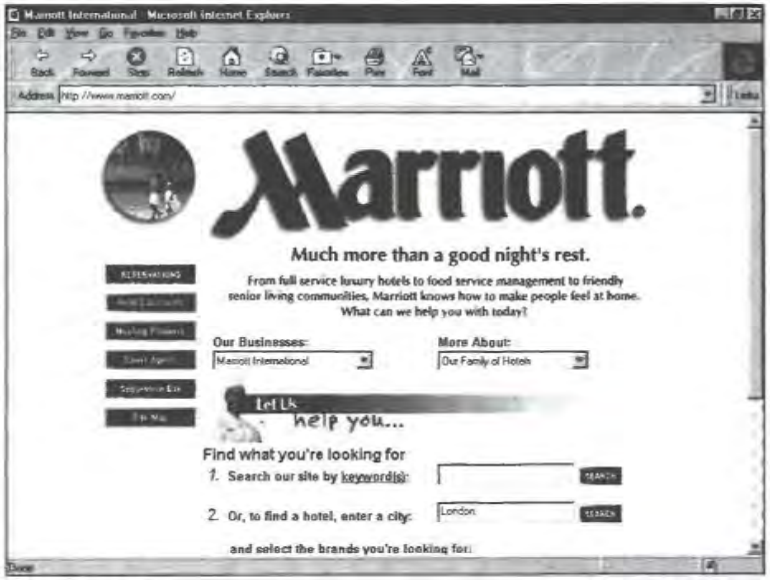


Figure 5.37 Marriott's home page (above)
Figure 5.38 London hotel rates (above right)

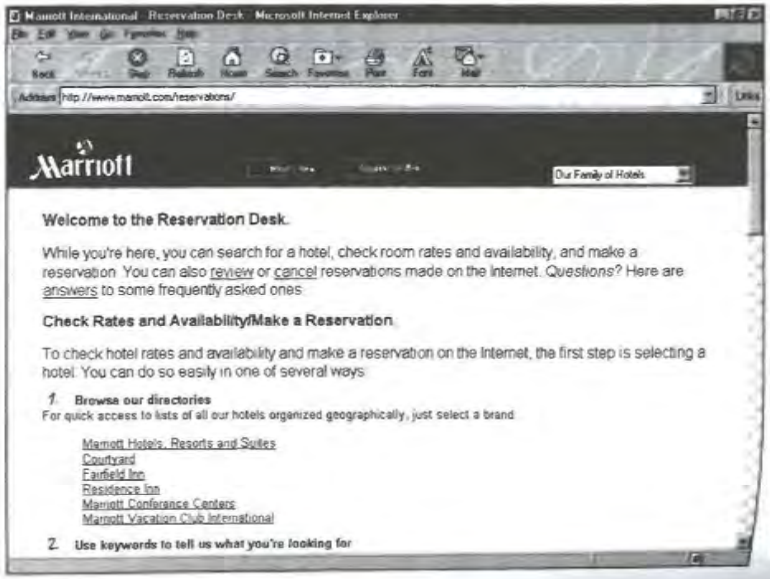
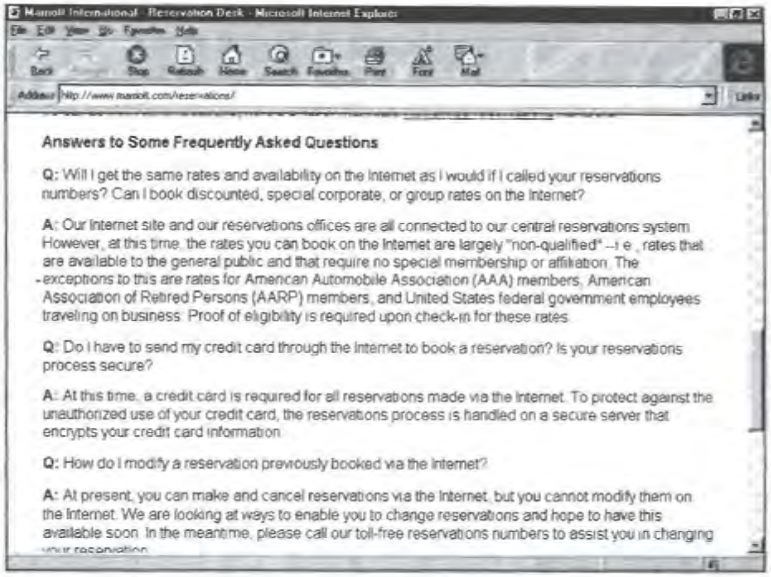


Figure 5.39 *Reservations information*



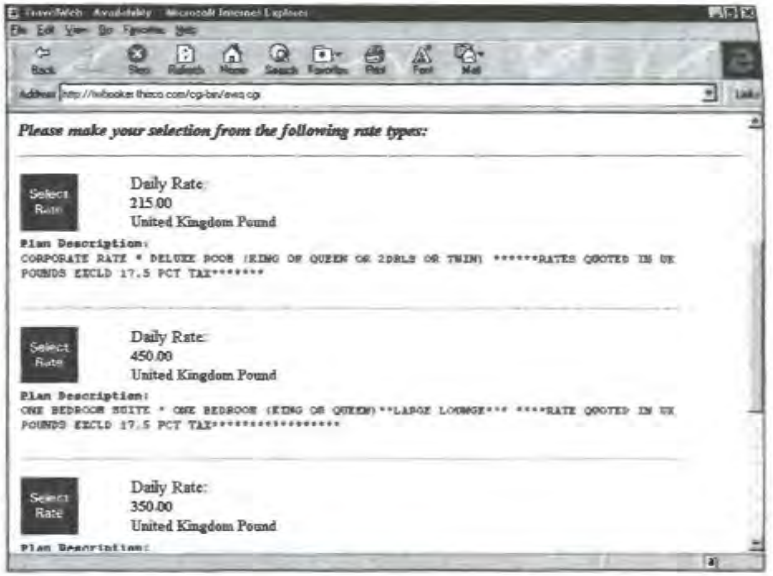


Figure 5.40 Q&A on booking procedure (above)
Figure 5.41 Rates in London hotels (above right)

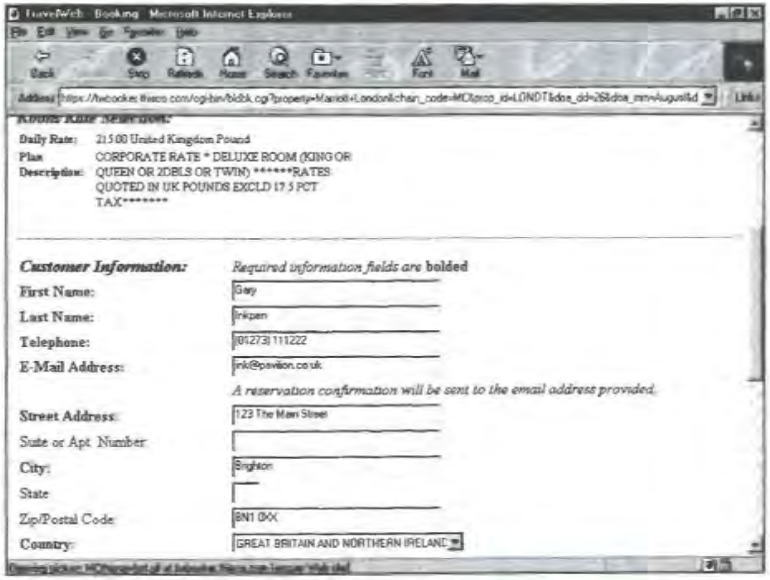


Figure 5.42 Booking screen

allow the consumer to purchase a wide variety of travel products; examples include TravelWeb and Travelocity. Boutiques are the smaller niche sites specializing in a single product only; good examples are Marriott and British Midland. This is a helpful analogy in today's retail Internet environment. Marriott belongs to several of these classifications. It participates within a Supermarket by way of its presence in TravelWeb but because it has its own site, it is also a Boutique. Boutiques can respond more quickly to environmental changes by introducing enhancements to meet the needs of the developing global hospitality market. Evidence of this can be found if we compare Marriott's original Web site with the latest version released in May 1997. The original site was highly customer focused and enabled visitors to carry out a wide range of functions including: (a) check availability, (b) view rates and conditions, and (c) book rooms. In May 1997 these basic functions were enhanced to include:

- **Interactive mapping** This is a USA-based mapping facility that is supported by a data base of 16 million points of interest and major business locations. The user simply enters his/her departure address and the site responds with a route map of how to find the nearest Marriott hotel. This map may be downloaded and printed by the user.
- **Enhanced search capabilities** A search engine has been introduced that enables the user to specify a number of search criteria including, for example; property features, meeting space attributes, nearby airports and geographic location.
- **Simplified reservation process** The number of clicks and keyboard entries required to book, confirm and cancel Marriott reservations has been reduced by enhancing the user/system dialogue.
- **Improved navigation** Some of the pages have been re-structured and re-indexed thus allowing users to find their way around the site more quickly and efficiently.
- **Meeting planning data base** A new section has been added to the site's data base that includes more detailed information for those who need to arrange meetings and conferences for their companies. The new information includes function room space, room dimensions, capabilities and floor plans.
- **Travel agent area and commissionable bookings** Marriott pay travel agents full commission on reservations made for all published transient rates that are booked via the Internet site.

Other services make use of the Web site infrastructure. For example, the secure payment processing functions have enabled Marriott to introduce the sale of Marriott Gift Certificates in denominations of US$25, 50 and 100, which may be paid for by credit card. Marriott is now increasing the use of e-mail for marketing purposes and plans to introduce some interesting new initiatives in the next phase of development. This will include a Concierge Service that will remind customers via e-mail of personal gift giving dates, anniversaries, birthdays and other events. No doubt Marriott will continue to develop and grow its site to meet the ongoing demand generated by Internet consumers. It will be interesting to observe how bookings shift between GDSs, travel agents and consumers as time marches on. No doubt Marriott, like many other travel vendors, would like to see a lot more business being done directly with its customers in both the leisure and business areas. If this does happen, the impact on GDSs and travel agents could be significant.

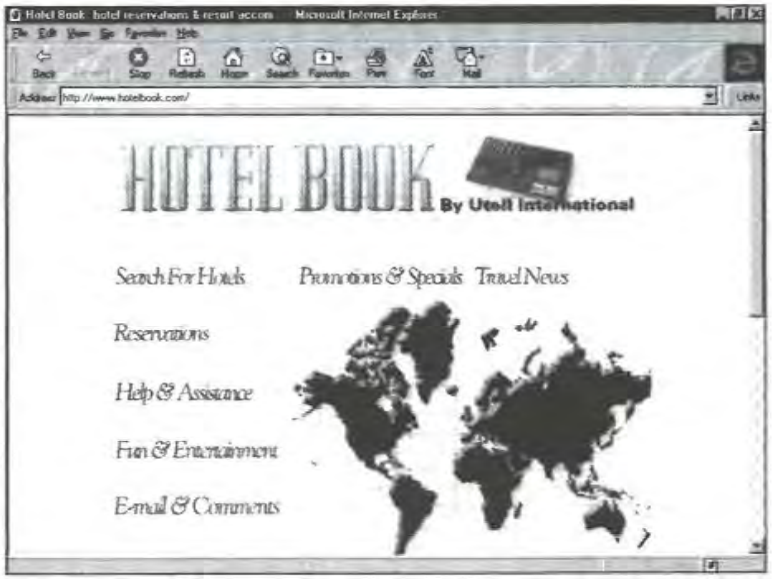
UTELL'S HOTELBOOK

Utell's Web site (Fig. 5.43) branded Hotelbook was launched in November 1996 and may be found at **http://www.hotelbook.com**. Utell intends this to become the world's premier hotel site on the World Wide Web. The number of locations featured will grow from 3,000 to over 6,500, thus embracing the entire portfolio of Utell's international hotel customers. The site is designed for use by all Internet consumers, be they individuals or travel agents. However, because only about 28 per cent of the world's hotel bookings come from travel agents, there is a significant opportunity to attract automated hotel bookings directly from the consumers, which represent the other 72 per cent. The following presents the major highlights of the Hotelbook site:

- **The basic Hotelbook service** Utell's participating hotel customers are allocated three Web pages within the Hotelbook site, free of charge. Each hotel is represented by at least these three free Web pages, which include:
  1. *Welcome* A page that shows a full colour 35 mm photographic image of the property together with a full textual description. A menu of further information is provided, along with the hotel's own e-mail address.
  2. *Features* Information that describes the hotel, its location, facilities and services using text and a graphical image (Fig. 5.44). Scrollable windows on this page show the hotel's features and services.
  3. *Rates* The rates for each hotel, which are shown within a series of pages automatically generated from the information stored within the core Utell system (see Chapter 4 for more information on Utell's systems).

  Consumers navigate their way around the site by means of a powerful hotel search engine specifically designed for Hotelbook.
- **Hotelbook's magazine** In addition to the product information, Utell's Hotelbook also includes travel news and information. This is sourced and editied by the Frequent Flyer magazine, which also provide sections on entertainment and current promotions. Hotelbook includes special awareness information on Utell International Summit Hotels, Insignia Resort and Golden Tulip Hotels, all of which are owned by Utell. Each of these pages allows each hotel to promote its own marketing partner, spread awareness of its special promotions, describe its products and distribute press information. The site also has a number of interesting features, two of which are: (i) a weather link that enables guests to review the weather reports for the time of their stay at their chosen hotel, and (ii) a rates conversion facility that enables customers to view rates in their own local currencies.
- **Electronic Brochure product** Participating hotels may elect to expand their coverage by purchasing five additional Web pages of their own. These can be used to promote information that is relevant to their own locations, such as:
  - *Meeting facilities* This can show images of meeting rooms, a description of the specialized meeting services available and the various meeting room hire rates.
  - *Location* This page can include a map of where the hotel is located, a description of how to get there and a list of nearby attractions.
  - *Room facilities* Pictures of the property's rooms can be shown as well as a description of the facilites available in each type of room.
  - *Dining facilities* Again, a full colour photographic image of each dining room can be shown along with links to other optional pages.
  - *Recreational facilities* Pictures and textual information enable the hotel's full range of recreational facilities for the use of its guests can be shown on this page.

  Extended hotel pages are particularly appealing to smaller independent properties that may not wish to invest in developing and running their own sites. Utell International is able to provide consultancy advice and guidance as well as Web page design services to hotels using these extended pages.
- **Group Display product** This is aimed primarily at larger hotel groups, i.e. those that are part of a group of ten or more properties. It enables them to promote their properties using a common corporate marketing message. This is supported by one of Hotelbook's optional features – the Group Display product, which is a sort of Web site within a Web site. This enables a hotel group to use several Customization features such as:
  - A branded home page of its own design (Fig. 5.45) – this is the first page that the consumers will see when they enter the URL of the hotel group (besides distinctive logos and product branding, this page can show special offers and promotions).
  - A customized colour scheme for all pages in the hotel group's site – this adds consistency and uniqueness of product from a marketing and product design perspective.
  - Supplementary pages to promote products – the hotel group may have special products,



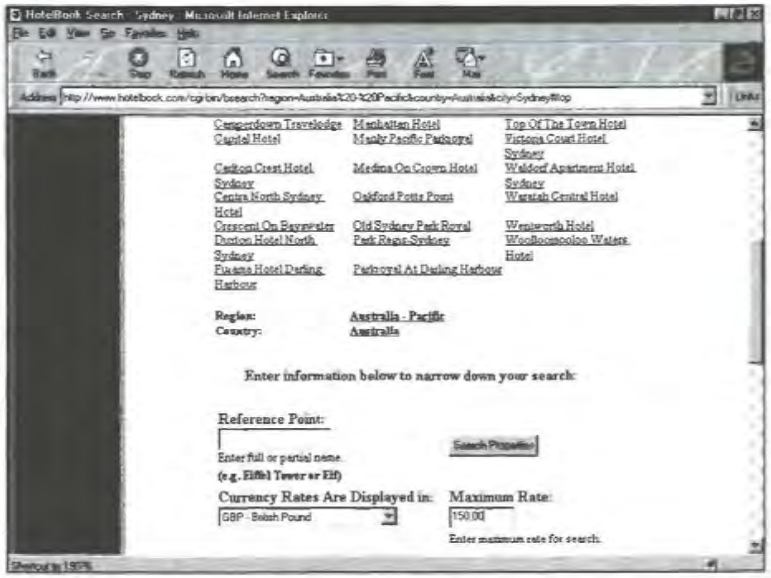


Figure 5.43 The Hotelbook home page (above)
Figure 5.44 Search criteria for hotel (above right)

Figure 5.45 Hotel page

unique to them. These may be explained and presented pictorially on special graphical Web pages.
  - Partners and promotions – pages may incorporate hypertext links from the hotel group's own page or pages, to strategic partners such as frequent flyer sites.
  - The ability to default Hotelbook's search engine to the hotel group's specific brand – this means that when consumers visit the site, their searches of the Utell hotel data base will always default to displays of the group's own properties.

  The Group Display product is ideal for small- to medium-sized hotel groups because it allows them to enjoy the benefits of a full presence on the World Wide Web without the overheads of running their own sites.
- **Hotelbook reservations** To make a reservation via Hotelbook, a consumer has three options: (i) they may call any one of Utell's 52 telephone reservations offices around the world, (ii) they can send an encrypted e-mail message to the Utell Web server, or (iii) they can use Hotelbook's on-line booking system. Consumers who are nervous about entering their credit card details into the Internet will probably be attracted to the first option. However, there are many advantages to the second, more convenient method. One advantage is the return of a positive booking confirmation within 30 minutes of the original secure e-mail message being sent. However, because this is rather slow in today's instant 'here and now' business environment, Utell has developed a full on-line booking system. The on-line booking system produces a return confirmation within 7 seconds.

Hotelbook is marketed primarily through strategic business relationships. This means that Hotelbook can provide other Web site providers with a hotel information and booking system as an integral part of their site. This allows Utell International to benefit from the Web site's strong brand name and enables the Web site partner to offer a full hotel product, which may not be possible for them to do alone. For example, a national newspaper may have a site that enjoys a high hit rate on information that is not solely accommodation based. The newspaper may decide to add a 'places to stay' guide. This can be provided to their site visitors via a hypertext link to Hotelbook. The link would be almost transparent to the consumer who would see Hotelbook pages modified and customized to the newspaper's own particular 'look and feel'. Other examples may be drawn from airlines, car rental companies and tourist board sites.

The development of this site is an example of Utell's belief and commitment to the Internet. The reason I say this is because the site is not expected to generate significant revenues for some years. In fact, in its early years, Hotelbook will be very much a loss-leader product. Revenue streams are primarily expected to be derived by charging hotels a commission for reservations delivered via the Internet channel. However, a secondary source of revenue will come from selling the Group Display and Electronic Brochure products. Some revenue may also flow from offering the hotelier on-line advertising opportunities. All of these revenue streams will no doubt take some time to develop and will not become significant until the critical mass of the Internet is reached.

INTERFACING SUPPLIER SYSTEMS TO THE INTERNET

There are many countries where non-air products are distributed to travel agents and consumers by old technology, like videotex in the UK, or by proprietary national distribution systems, such as START in Germany and Esterel in France. These systems often limit their suppliers in terms of what can be offered to end users and how their services can be extended to other markets. End users frequently compare them to Windows-based systems and the Internet, against which they look decidedly dated. Take Videotex for instance. Many of the current videotex systems that are widely used by UK travel agents to book package holidays have been around for the past 20 years. These systems are cumbersome to use because they are character based, slow to respond to user's requests because they use old telecommunications technologies, subject to data corruption if accessed over dial-up lines and very limited in terms of their

appearance. The new Internet technologies offer suppliers a solution to most of these problems, while at the same time opening up completely new distribution opportunities.

The supplier's problem to date, however, has always been; 'How can these new distribution technologies be used to boost bookings without incurring substantial development costs to replace in-house legacy systems?' One possible solution is to combine various new software technologies with standard Internet tools to produce an interface that supports both Intranets for private or limited access and the Internet for public access by consumers. This means that end users, whether they be travel agents or consumers are then able to access the supplier's core legacy system using standard Internet browser software that runs on virtually any PC. A new company that has recently entered this field is Gradient Solutions (a trading name of NewPage Systems Limited), based in London.

Gradient offer travel suppliers the opportunity to interface their legacy systems to the Internet while also improving the quality and usability of their booking screens. This has the dual benefits of: (a) enabling the supplier to continue using legacy booking systems without the need for any costly systems changes; and (b) allowing end users, whether they be consumers or travel agents, to enjoy the benefits of simple and dynamic Web-based pages of information for booking purposes. Gradient offers these services to suppliers in one of two possible ways, either:

- **Facilities management** The supplier contracts the development and operation entirely to Gradient who runs the interface software on its own computers. The Gradient computers are Sun Netra Web Servers, which use Cisco routers and fibre-optics to link both to the Internet and the supplier's legacy system, by high speed data lines. This computer has an uninterruptable power supply and incorporates firewall software to prevent unauthorized access to other parts of the system, virus detection routines, secure encryption algorithms and tape back-up systems. It runs 24 hours each day, seven days per week and reports on the number of end-user site visits and bookings made, for each supplier.
- **Supplier's Internet server** For suppliers that already have their own Internet or Intranet server computer facility, the Gradient interface software can be added. This software comprises several layers including: data communications, legacy system interconnection, legacy-to-Web middle-ware, added-value business logic and World Wide Web presentation. Once developed and loaded, however, the responsibility for running the network and handling the security issues lies firmly in the hands of the supplier's own IT department.

The interface software does more than simply convert a legacy screen format into an Internet page. It also enables new dialogues to be implemented by combining data from more than one legacy system screen into a brand new Internet page, complete with drop down lists, check boxes and radio buttons. An Internet-based approach also enables suppliers to distribute a great deal of descriptive information about their products to end users. This information can be created and stored using HTML techniques. This can be linked to booking response screens to create new items of information for users. Finally, the new pages can easily be 'e-mail enabled'. This means that when a user wants to receive more information, personalized to their own situation, they can request an e-mail response from the supplier. It is far easier and (perhaps more importantly), far more cost effective, for a supplier to respond to a prospective or current customer in this way, rather than by using the telephone.

But the overriding benefit of this approach is the ability of Internet-based technologies to broaden the reach of travel suppliers. A supplier may, for example, decide that the first step along the road towards a more widespread distribution strategy might be to open their system up to a specified group of travel agents, perhaps in a certain area of their home market. This is characterized as the Intranet approach. It allows the supplier to retain a tight level of control over who can access their system and what functions are provided. Later, when a sound base of experience has been accumulated, the supplier might decide to open the system up to all travel agents in their home domestic market as well as some overseas

agents in other countries. Finally, the supplier has the option of allowing consumers to access the system on a global basis. This final step may involve some tailoring of the system to make the functionality less complex for the occasional, untrained users. The important point is, however, that the basic infrastructure can remain relatively unaltered. The supplier may continue to use their legacy system and is able to control the degree of system roll-out without being hampered by costly changes to their core system. In summary, a Web-based distribution system for travel suppliers offers the following advantages:

- The screens are easier to use than many legacy systems and other national distribution systems like videotex, START and Esterel, which means training is minimized.
- Screens appear more high-tech and can incorporate graphics and images that enhance the image of the supplier company.
- Several legacy system screens can be integrated into a simpler and more comprehensive end-user page with up-front editing that can speed up the booking process and reduce the transaction load on the supplier's central computer system.
- The booking process reflects the current business logic of the legacy system upon which the new Web-based distribution system is based.
- The Web page can be presented in the end user's own local language. Pages can be constructed as and when needed in most languages.
- Tariffs and fares can be displayed in the local currency of the country in which the travel agent or consumer is located.
- Core legacy system booking products can be integrated with fringe products such as travel insurance and foreign travel money to generate new revenue streams.
- The use of HTML techniques enables the supplier's Web site to incorporate an electronic brochure that describes the supplier's products in pictorial as well as textual terms.
- An on-line Web site enables suppliers to offer special promotions such as last minute bargains, late availability and the re-sale of cancelled bookings.

The key economic statistic that suppliers will no doubt use to determine whether or not to interface their systems to end users via the net, is the relative cost to receive a customer booking via the telephone versus the equivalent cost over the Internet. Because it is estimated that a typical telephone booking costs around US$10 and an Internet booking costs only US$0.50, you can see that there is a powerful argument for suppliers to consider this approach. The costs involved are really threefold: (i) there is the cost of developing the interface between the supplier's legacy system and the Web server, (ii) the facilities management charge for running the travel agent Web site, and (iii) a unit charge of around US$0.50 for each booking made over the network. With Internet-based solutions such as those offered by Gradient, it is possible that the long awaited migration from videotex to PC-based booking systems is about to commence.

Business travel on the Internet

Much of the above has focused on the way suppliers use the Internet to make direct contact with leisure travellers in their homes. But another significant opportunity is to use the Web to support business travellers and the companies for whom they work. Not only are suppliers entering this field but so are GDSs, travel management companies and new suppliers. Using the Internet for business travel functions is particularly attractive because: (a) business travellers are relatively sophisticated and are sufficiently confident to make their own travel arrangements, (b) business travellers often carry their own lap-top PCs with them when they travel, (c) many companies are seeking to use technology to increase the effectiveness of their travel policies, and (d) networking is an excellent way of integrating the complete business travel cycle from trip planning, through ticketing to expense reporting and administration. So, all in all, there are some very compelling factors that make the Internet an excellent platform from which to launch the next generation of business travel support systems.

As a result of advances in the field of technology, there are now a number of new travel oriented Internet sites and associated tools. While

some of these are perceived as posing a threat to travel agents, some maintain the travel agent firmly in the loop between the customer and the suppliers. However, there is no doubt that the use of business travel Internet-related technologies will change the role of the travel agent considerably. One leading site is American Express Interactive (AXI), developed by American Express.

AMERICAN EXPRESS' AXI

American Express is uniquely placed to provide an integrated business travel management service because it operates two components that are critical to the success of a company's travel needs: (a) a global business travel service that is provided by a network of offices in most major countries of the world, and (b) a comprehensive range of card services, many of which are focused on controlling company expenditure. These two critical ingredients have now been combined with the technological capabilities of Microsoft to create the next generation of business travel services delivered over the Internet. It was in July 1996, that American Express and Microsoft announced a strategic alliance jointly to create an intuitive corporate solution for on-line air, hotel and car rental reservations (Fig. 5.46).

Over the course of the next year or so 'project Rome', as AXI was initially called, was developed by staff from both companies. In developing AXI, American Express has used the Microsoft Travel Technologies (MTT) platform, a suite of software products that specifically support Web-based travel applications. The result of the development programme is an Internet-based system designed initially for the USA corporate travel market called AXI. AXI was launched by American Express in July 1997 at a leading USA business travel conference held in St Louis in the USA. This initial product is designed for USA companies that want to provide their employees with the convenience of end-user travel management tools while at the same time retaining the control necessary to maximize their overall travel budget. American Express plan to launch an international version of AXI in 1998.

The AXI product is an integrated set of travel management services (Fig. 5.47) that uses the Internet as its distribution medium. It takes a holistic approach to business travel. By this I mean that it is built around the business travel life cycle, which comprises: (a) establishing and maintaining the company's travel policy, (b) supporting travellers with their trip planning activities, (c) making reservations and bookings either prior to the trip or modifying arrangements during a trip, (d) ticketing and boarding, (e) processing payment and expense reports (normally the paperwork bane of a traveller's life), and finally (f) providing management information that can be used by the company to negotiate better deals with suppliers and closely monitor internal expenses. Let's take these stages of the business travel life cycle in more detail and explore how AXI supports each one.

Figure 5.46 The AXI home page

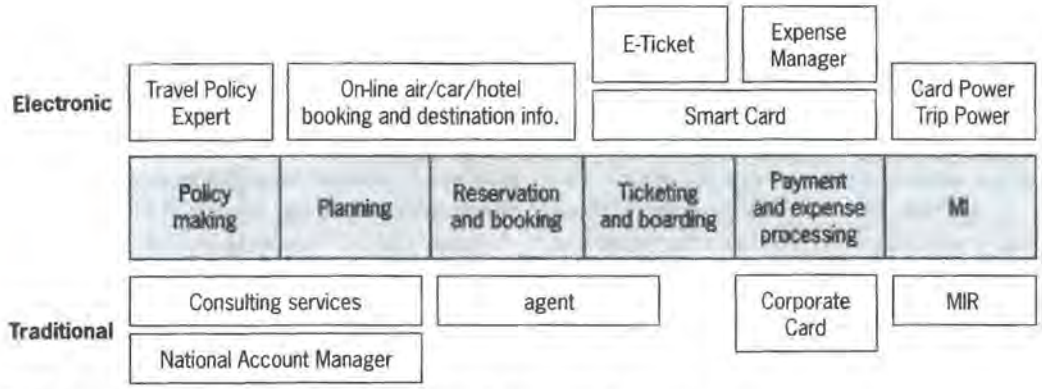


Figure 5.47 The American Express travel and entertainment management process

Travel policy

A travel policy is invariably established at main board level within a company. At this level, it usually comprises an overall set of guidelines outlining key directives such as when different classes of travel may be used by staff travelling on company business and the various entitlements of different grades of employees. These policy statements are expressed as unambiguous guidelines for travellers and define a set of rules governing how travel suppliers are chosen. Despite the fact that this process may appear simple, it is often quite challenging for companies actually to implement their travel policies consistently throughout their organizations. Although it is at the heart of virtually all business travel activities, it is surprising how many companies either do not have formal travel policies or which do not communicate the policies effectively to their employees. A cornerstone of AXI is therefore the Policy Editor, which automates this process.

AXI's Policy Editor supports the formalization, communication, execution and monitoring of a company's travel policy. Access to the travel policy maintenance functions are of course restricted to a senior level within the company's organization. This is often the designated travel manager, head of personnel or chief financial officer. AXI enables a data base to be maintained of travel policy parameters. This is sufficiently flexible to allow different groups within a company to each have their own slightly different travel policy. AXI recognizes different policy groups and other underlying environmental factors, such as the base currency, by means of codes assigned by American Express as part of the initial set-up process. Several other parameters and data elements combine to form a company's integrated travel policy, including for example:

- **Policy text** AXI's Policy Editor supports the inclusion of a company's full travel policy in textual form. The policy may be indexed and stored using HTML, which supports hot links to other related sections and relevant parameters within the Policy Editor. Eventually, AXI will be enhanced to include context sensitive help functions that support automatic back referral to specific sections within the travel policy, as appropriate to the user's query.
- **Preferred and excluded airlines** This is a powerful way for the company to keep a tight control on precisely which airlines its employees use for their business trips. Airlines can, under the complete control of the AXI user, either be included on the preferred list or specifically excluded. The old accusation frequently made by airlines during the negotiation process that the company has very little influence over which flights its employees choose, is groundless. With AXI, a company can instantly de-select a given airline or add a new carrier to its preferred list; any changes such as this take effect immediately. Similar functions also apply to hotels and car rental services (see the note on filtering below).
- **City airport selection** A travel manager may choose the precise airports that are included

in availability displays for any given city. For example, a regional airport may offer cheaper flights than a city centre hub. However, regional airports have the disadvantage that they are often not quite so convenient. The person setting the travel policy can choose which airports to include in the GDS displays shown to their travellers by AXI (see the note on filtering below).

- **Number of stops** The maximum number of flight stops may be specified within AXI by the company as part of its policy. This allows the company to decide the limit to which it is prepared to let its employees suffer multiple stops *en route* to their destinations, in order to achieve low cost fares. Generally speaking, the higher the number of stops, the lower the fares. However, flight stops increase travelling time and add to a traveller's discomfort. It is therefore important that their use is carefully controlled. AXI will not show alternative flights that feature more stops than the maximum specified in the Policy Editor (see the note on filtering below).
- **Filtering** Many of the travel policy functions supported by AXI employ filtering techniques such as those described above. Filtering allows a company to decide those suppliers, airports and travel arrangements that are both allowable and non-allowable, within the bounds of its travel policy. While the AXI technology supports filtering, the decision over precisely how the filtering parameters are used is totally under the control of the client company. If a company decides not to use filtering, then its AXI users will be presented with all options reported as available by GDSs and other information systems accessed by AXI. In many respects this is no different from the way companies enforce their travel policies at the moment in a manual environment. The difference with AXI is that the technology allows companies to be more successful in applying their policies in actual practice and this in turn allows them to control their travel expenditure more effectively.

The automatic application of an effective travel policy provides a company with a substantial bargaining lever in its negotiations with suppliers. Historically, suppliers have taken the position in rate negotiation meetings that companies have very little immediate control over their employee's travel decisions. It used to be very difficult to get employees to switch from using one travel supplier, to using another, e.g. to switch from using Airline A from City 1 to using Airline B from City 1 without impacting other airlines and cities. With widespread use of AXI, however, this is perfectly possible (Fig. 5.48). By making a number of simple adjustments to AXI's Policy Editor, the company can cause an immediate impact on the business delivered to specified travel suppliers.

Planning, reservations and booking

Trip planning is a vast area within business travel and it is closely integrated with the reservations and booking process. This is why I have merged these two stages of the business travel life cycle into this single section. Historically, these stages have arguably been a booker's prime time-waster because the tasks involved can mean long spells on the telephone explaining travel requirements to a secretary or a travel agent, which is then followed by frequent call backs and changes associated with fare selection. With AXI, the business traveller or their designated booker, e.g. a secretary or personal assistant, can cut out these time wasting intermediate steps by directly accessing travel information, fare data bases and availability information themselves. What's more, the AXI system enables the traveller's personal preferences always to be taken into account at each stage. Let's examine how AXI supports the provision of travel information and reservation services in a little more detail:

- **Travel information** For many travellers, the first stage in the trip planning process is to carry out some basic research on the destination areas included in their proposed itineraries. AXI provides access to Microsoft's global mapping and travel information data base, which I have explained above under the Expedia heading. For corporate travellers this can be extremely useful because it allows them to check information, such as whether or not visas are required for the countries they intend

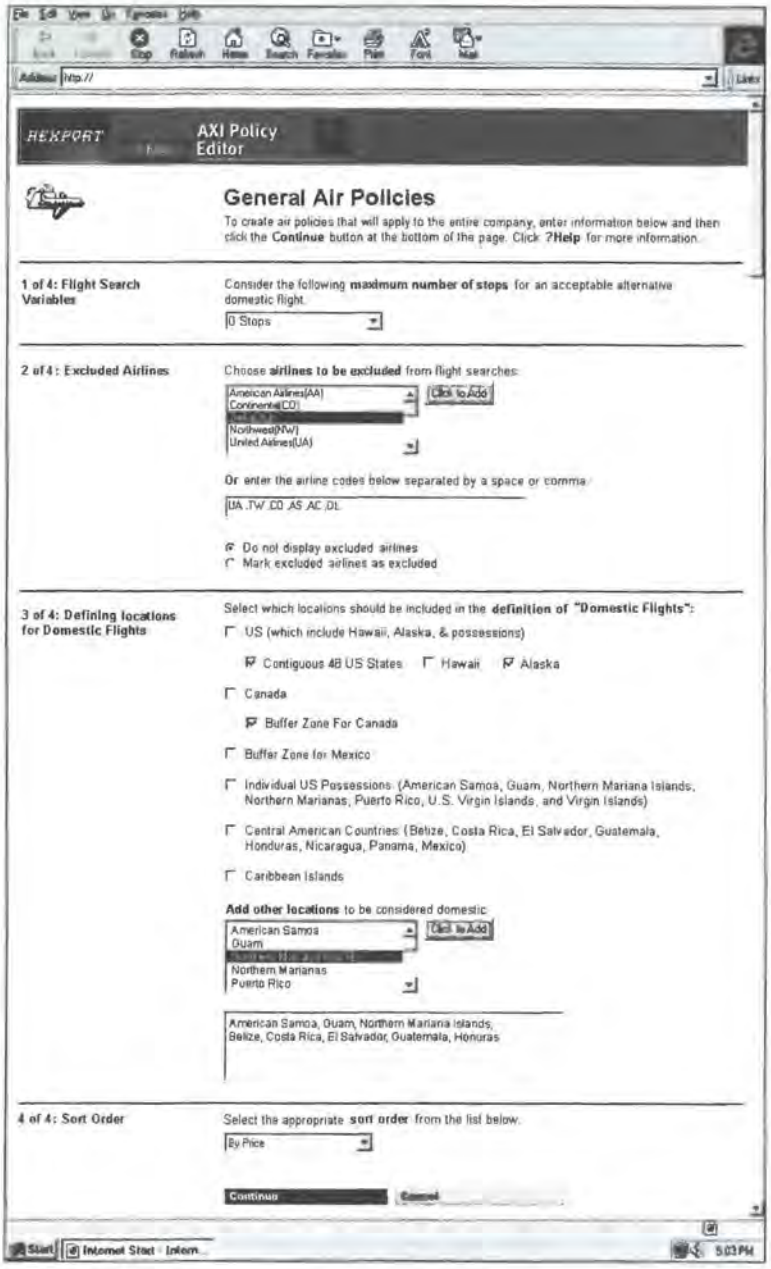


Figure 5.48 AXI general air policies page

to visit, what the weather forecast is for the region and what cultural events are taking place during their planned stays. The travel data base also contains a great deal of detailed information on restaurants and other attractions in the destination area.

- **Air** Travellers use the AXI GUI to define their requirements in terms of from/to city pairs, date and time of travel, class of travel and many other parameters. When a traveller decides to request an availability display, AXI first consults its internal data base of specially negotiated fares for the itinerary specified. It uses these to construct an availability request that is sent to the GDS. In the USA, AXI uses the Sabre GDS; however, other major GDSs may

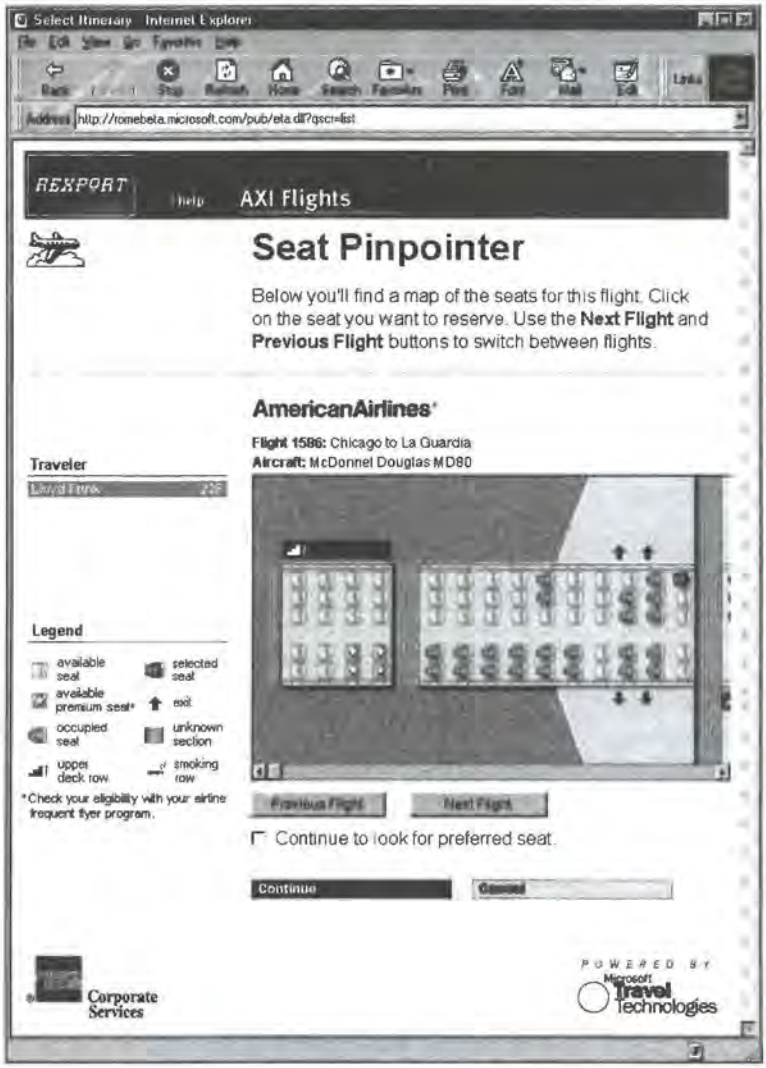


Figure 5.49 AXI seat pinpointer

well become available in the future as AXI is enhanced and extended over time.

The GDS responds with an availability display for each flight that meets the traveller's requested itinerary. Flights that are outside the company's travel policy may either be shown with a flag designating them as 'outside policy' or they may be excluded from the display altogether. The decision on which of these display options is implemented is made by the company and specified within the travel policy section of AXI. The availability display shows flights either: (a) in sequence on fare price; or (b) in sequence with those closest to the chosen itinerary first and those farthest away last. The prices shown on the display are those that are taken either from the negotiated fares data base or from the scheduled fare as stored within the GDS. Negotiated fares may be either those obtained by American Express and available specifically for its customers or those that have been obtained by the company itself.

The traveller simply selects their chosen flight and can then either: (a) store the flight details as part of an itinerary that they are building in AXI, or (b) proceed with making the reservation. To make the reservation, the traveller's preferences must be entered. These

Figure 5.50 AXI best price tips page

can automatically populate many of the fields on the reservations page from a personal profile that each authorized traveller can maintain themself within AXI. This stores fields such as meal types, smoking or non-smoking preferences, the desired aircraft seating position, e.g. aisle or window, frequent flyer programme details and many more. Naturally, these pre-populated fields may be overridden by the traveller as necessary. When a reservations request has been successfully answered, i.e. the requested seat or seats are available on the flight, AXI's GDS response may in many instances offer the traveller a scrollable seat map of the aircraft (Fig. 5.49). This shows seats already reserved, those seats that are only available to members of the airline's frequent flyer programmes and other available seats on the flight. The AXI seat map therefore allows the traveller to choose their own seat: the availability of this function within AXI depends on whether or not it is supported by each airline's CRS.

- **Hotels and car rental** AXI uses a data base of hotels and car rental companies that is maintained globally by Microsoft as part of its MTT service. This data base is also updated by American Express with details of specially negotiated rates (Fig. 5.50). These special rates may in fact be of two main types: (i) rates that have been negotiated by American Express for general use by its corporate customers, or (ii) rates that have been negotiated by corporate customers themselves and are only available for their own use. Depending upon the authority of the end user, this data base may be searched and reviewed in many different ways. (From here onwards, I am going to be talking about hotels, as we explore how AXI works, but virtually the same remarks apply to car rental.)

  When a corporate traveller requests AXI to perform a hotel search, the AXI server filters the data base to show the user only those hotels that their travel policy allows them to

see and that meet their stated accommodation requirements. At its highest level, the selected data base listing shows summary information and possibly a picture of the hotel, in ascending sequence on room rate. (The choice of whether or not to include a picture on these pages is taken by the hotel or its parent chain company in conjunction with Microsoft who retains editing control over the hotel data base.) If further details are required, the user may either choose to view details of the hotel and its amenities or may choose to view a map using Hotel Pinpointer.

The mapping feature is similar in many ways to that already explained above for Expedia, because AXI uses the same MTT platform to support this function. The map shown on the AXI first response page pinpoints the selected hotel in a wide-area context that includes the chosen destination. The user can then choose to zoom in and view the hotel's location at closer quarters or use the mouse to determine how far the chosen hotel is from certain landmarks. The user also has the option of drawing a box on the map and then viewing all of the hotels that fall within this boxed area. This is a powerful yet extremely simple to use feature of AXI, which has the added benefit of allowing the user to print the map for inclusion as a part of their travel documentation (Fig. 5.51).

When a hotel is chosen by the corporate traveller, the first two things they will want to know are the availability of the required room in that property and the daily room rate. AXI firstly interrogates its hotel data base for property and rate information. Following this, it automatically links to the GDS for room availability information. The following situations may subsequently occur, depending upon the hotel and rate chosen by the user. Either: (a) if the hotel and the rate are present in the GDS, then the availability is shown with an option to book on-line, (b) if the rate selected by the user is not stored within the hotel's GDS record then the user is offered the option of sending an availability request directly to the hotel, or (c) if the hotel itself is not present in the GDS then a request can be sent to the appropriate American Express travel office for follow-up and booking.

All requests made via AXI are handled by GDS PNR queuing systems that may employ several communication channels including, for example, teletype, e-mail, fax or the telephone. It is interesting to note that in case (a) above, the hotel and the traveller receive confirmation of the booking on-line, but the hotel must then pay the GDS a booking fee; whereas in (b) and (c) the hotel must manually process the incoming request to make the reservation and the traveller must wait for a confirmation, but the hotel does not need to pay the GDS a booking fee. It will be interesting to see how these economic dynamics influence the future ways in which hotels choose to record their rates within the GDSs, in particular for customer bookings involving specially negotiated rates.

The entire planning, reservations and booking process is undertaken within the company's travel policy, as created by the travel manager. This means that the availability displays that are shown and the rates that are used are all filtered through the travel policy parameters (see the note on *filtering* in the travel policy section above). If, for example, the company has decided not to include a specific airline in its displays, then that airline will not show on a corporate traveller's availability display. Finally, AXI checks to ensure that the planned trip falls totally within travel policy with regard to fare, class and carrier.

The company's travel manager determines the appropriate action to be taken when an attempt to book an out-of-policy trip is detected by AXI. The action taken can vary in intensity from a simple warning to the traveller, right through to freezing the booking altogether. If the booking requires pre-trip authorization, AXI will ensure it is not completed or ticketed until the required level of authority has been granted. This is achieved by means of a message that is automatically sent by AXI to the person responsible for authorization. This person can view all the trip's details, including any explanations for the out-of-policy

situation that the booker may have previously entered.

In certain situations, a company may allow an out-of-policy trip to go ahead. The company can use AXI to decide how it wishes to proceed in such cases. For example, AXI can either: (a) simply warn the travel manager that an out-of-policy trip is under way; (b) warn and document the out-of-policy booking and prevent it from proceeding; (c) document the situation but automatically authorize the trip, and so on. Each company can therefore use AXI to report out-of-policy situations as it sees fit for its travelling employees.

Ticketing and boarding

As electronic ticketing becomes more widespread, the issues associated with ticket delivery and boarding will recede into the background. Although AXI can handle e-ticket transactions, for the moment, the vast majority of airline tickets must be physically delivered to the traveller prior to their departure date. This may be accomplished by three methods: (i) ticket on departure – the ticket is collected by the traveller from an airline desk at the airport, (ii) collected from travel agent – AXI can queue the ticket for printing by an American Express travel agency location near to the traveller, or (iii) delivered to the traveller's home or office by secure express courier. For home or office delivery in the USA, American Express queues all tickets to the chosen carrier's central distribution hub, e.g. for Federal Express this is located in Memphis. The tickets are actually printed on-site in the hub, packaged and delivered overnight to the traveller's home or office. If at any time the traveller wishes to check on the status of their delivery, the AXI Web site home page contains a hot link to the carrier's own Web site. The Airbill Tracking number is used as the key to support enquiries from travellers.

Payment and expense processing

Payment for travel services can be supported by AXI in several alternative ways. Charges can, for example, be billed to the traveller's own American Express corporate card. This can be attractive from the company's viewpoint because it eliminates many of the accounts payable functions that are an inherent part of business travel. Or, certain expenses such as air and rail tickets can be billed to a lodge card. A lodge card is a single American Express card against which company travel expenditure is billed on a central basis, for all employees. The choice of payment method implemented by AXI is chosen by the client company in conjunction with American Express.

AXI also automates one of the banes of every traveller's life – the completion of an expense voucher following completion of the traveller's business trip. These functions are provided by AXI's Expense Manager application (Fig. 5.52). The primary source for the electronic expense voucher is the card charges that are submitted to American Express by service establishments, i.e. places where the traveller has used their card to purchase goods and services. When American Express receives these records of charge, either electronically or in paper form, they are input at regional operating centres around the world and eventually find their way into the corporate traveller's American Express card account. These charges may be viewed by the traveller and categorized for inclusion in their electronic travel expense voucher. Charges may be viewed in detail and the traveller may split them into the expense categories that their company uses.

In future, service establishment charge records may be available that are already split according to the services used. This is particularly relevant to hotel charges where the actual room rate may be only a small proportion of the total check-out bill. Not only will this facility make life easier for the corporate traveller but it will also enable the company's buyers to include other relevant expenditure in addition to room charges, when they negotiate future room rates with hotels and hotel chains. Finally, the traveller may create new entries for inclusion within their electronic expense voucher to record non-card expenditure, such as cash spent on taxis, tips and snacks. When the traveller is happy that their electronic expense voucher is complete, it is e-mailed to their designated authorizor (usually their line manager), for electronic approval. Approved expense vouchers are filed in a data warehouse that forms the basis for AXI's management information.

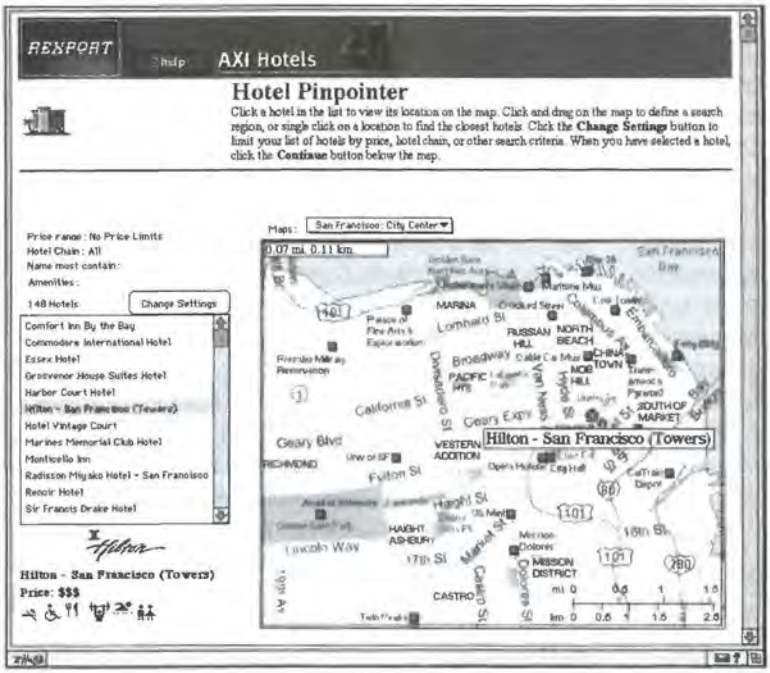


Figure 5.51 AXI hotel pinpointer

Figure 5.52 AXI expense manager

Management information

AXI has been integrated with several powerful management information applications that were originally designed to run in stand-alone mode on a company's own in-house PC. The functionality of these applications, known as Card Power and Trip Power, has now been migrated to AXI's Internet server, thus providing users with a choice of whether to run them locally or via the Web server. These software tools provide both internal and external management information functions. Authorized users can employ these management information support tools to select and process historical internal data in a variety of ways to measure travel expenditure and keep a check on the amount of business delivered to suppliers. Information on actual expenditure incurred can be

extremely valuable to a company in negotiating the best possible deals with suppliers and in reviewing the effectiveness of a company's travel policy.

An important source of external travel industry data is also available to authorized AXI users, such as the company's financial officer or travel manager. These data are researched and published by American Express Consulting Services and profile the travel patterns of other companies, e.g. the Air Fare Survey Index. Such information can serve as an extremely useful yardstick for benchmarking exercises that establish the relative effectiveness of a company's travel policy *vis-à-vis* others in related fields. In particular, it allows the company to review its corporate rates for air travel, hotels and car rental services with industry averages by business sector and city pairs.

The technology

The AXI development uses the MTT platform for many of its functions. This is the same platform that was used to launch Expedia, Microsoft's own leisure travel oriented Web site. The web pages use frame technology throughout, which makes the system very easy to use and navigate. Frames allow users to drill down into the depths of data structures yet always provide a means to hot link into completely new areas. Under the terms of the joint venture contract, American Express has a two-year exclusive licence to the jointly developed corporate product. The AXI architecture comprises several different elements:

- **AXI Web server** This is an Internet server operated by American Express that runs software applications supporting: (a) a central data base of travel-related information, and (b) the core AXI processing functions. AXI uses Microsoft back-office server software to support the Internet, Intranet, or for that matter client/server technologies for networking and central data base access. These Microsoft products include Windows NT Server, Internet Information Server and SQL Server. In addition to this, Microsoft products are also used to connect into American Express' back-office systems, which feature a quality control application, electronic ticketing, a low fare search facility and support for a data base of special rates negotiated directly between clients and certain high volume travel suppliers. The core of the data base that stores hotel and car rental information is maintained centrally by Microsoft and distributed electronically to the AXI server.
- **Travel reservations server** The travel reservations server is located within Microsoft's computer facility in Redmond, Washington State. It actually comprises a number of server computers running software that interconnects AXI users with the GDSs, each of which uses different communications technology. Access to the GDSs provides AXI users with reservations functions for airlines, hotels, car rental services and, eventually, local supplier access in international areas.
- **Front-office** AXI's front-office client PC environment supports access to Internet technology and local processing using software that runs in the employee's desk-top or lap-top computer. The AXI PC client supports any browser that is HTML 3.0 compliant. The security and authentication standards used are SSL and Private Communications Technology (PCT). These enable credit and charge card transactions to be carried safely over the net. AXI also uses established American Express software products that provide company employees with a comprehensive business travel and expense management system.

All these products and remote data bases may be accessed via the Internet or a corporate Intranet from an employee's own desk-top or lap-top PC. So, as you will see from the above, AXI provides access to air, hotel and car rental reservations, a data base of company negotiated travel supplier rates, the company's travel policy, preferred supplier prompts, a wealth of destination information and the ability to track business travel transactions. The AXI service is a living product that will continually be modified and enhanced to provide applicability to other areas of the world. It will, for example, be adapted to show local language, value-added tax, foreign currencies and different postal code formats instead of USA zip codes. As the system is rolled out to other countries, it will connect into local supplier systems via its links with the world's GDSs. There are three connectivity

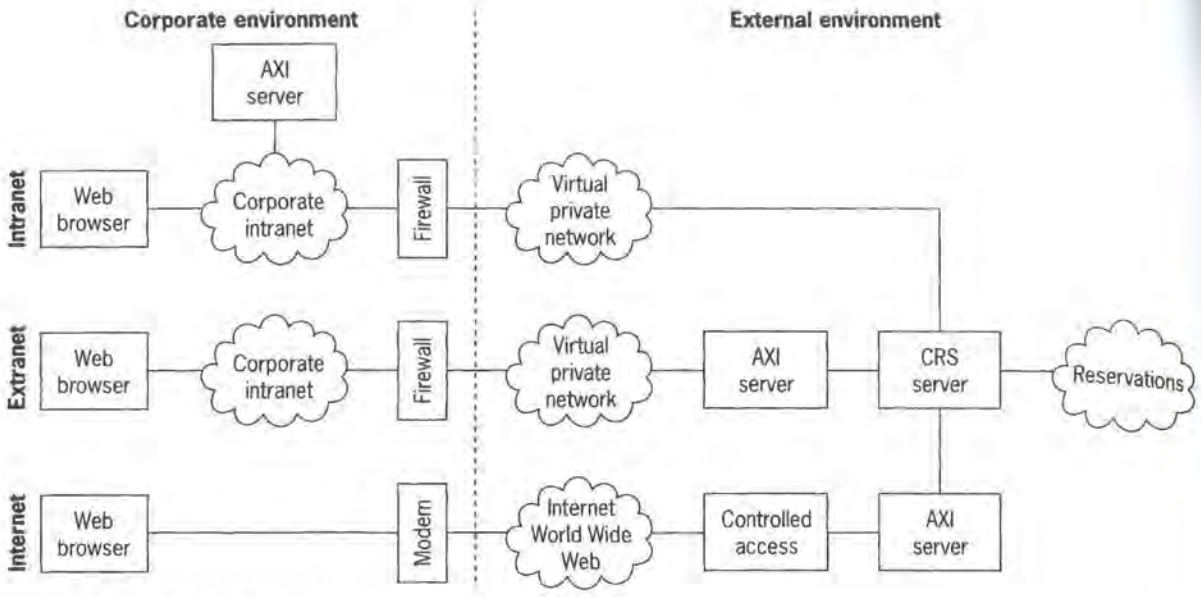


Figure 5.53 AXI network options

options that American Express customers may choose: Internet, Intranet or Extranet (Fig. 5.53). These are shown in Fig. 5.53 and are summarized as follows:

- **Internet** With the Internet option, both the corporate traveller and the company's head office staff access AXI via the public Internet. Dial-in access is provided by the company's chosen ISP. Using the Internet has the benefit of wide-scale geographical availability, including access services provided by ISPs with gateways in many countries around the world. Global access can be especially useful for business travellers who need to keep in touch with AXI via their lap-top PCs during trips.
- **Intranet** The Intranet option is available for companies that choose to run their own in-house communications networks with firewalls for protection against unauthorized access. Companies may therefore choose to implement AXI on their own in-house servers, which are kept up-to-date via information feeds channelled through head office connections to American Express.
- **Extranet** The Extranet option is very similar to the Intranet option except that the AXI Web server is actually run by American Express. This still allows the company's travellers to connect to AXI via its own private and secure Intranet, complete with firewall protection. In this environment, travellers access AXI via the company's private network, which is connected via the firewall with external computers such as the AXI Web server run by American Express.

To use AXI, a company must be a customer of American Express. In other words the client company must use the American Express business travel service and ideally should also be a corporate card-member. The company may then be granted a domain name by American Express that enables it to access the AXI Web server. This provides a client company with the automated core business travel services, but it still needs to be supported by a global network of human beings and servicing offices. After all, even in a fully automated electronic world, post-reservations support is critical. This is an integral part of the AXI service and is provided by the world-wide network of American Express offices and a 24-hour hot-line. It may be complimented further by a link between the company's corporate card and the travel information services of AXI.

The real issue for American Express is the degree to which companies will use AXI. Even for those companies that decide to implement the system, a significant internal selling job will need to be done on stalwarts. Despite the fact that AXI is so simple to use that it requires no formal training, there will no doubt be many employees who will resist change and continue with the old tried and proven travel services. However, there is a real impetus for companies to encourage the widespread use of systems like AXI because they have significant benefits, some of which may be stated as: (a) enabling a company's travel policy to become a powerful management tool and not just an administrative overhead; (b) substantially reducing the amount of time spent by travellers on completing trip requisition forms, travel expense vouchers and other forms of bureaucracy, thus increasing overall productivity; (c) helping a company obtain better deals from suppliers supported by accurate management information and the effective implementation of travel policy; and (d) delivering a more efficient and better informed travel service to business travellers. So, I think that companies will, over time, stipulate that an integral condition of being able to travel on company business is that the designated corporate travel system must be used for all aspects of travel, just like they stipulate that standard expense vouchers must be used to record expenses today.

RESASSIST

One such product is ResAssist '96, which was developed by the Travel Technologies Group (TTG), a USA company based in Dallas, Texas. This is a fairly new product, even in its home market of the USA. It is being marketed in the UK by ICC Travel Systems, the company that also sells the Concorde agency management system (see Chapter 7 for a more detailed presentation of the company and its main product – Concord).

ResAssist '96 is an end-user booking tool that is aimed at the corporate market. It is a product that travel agents can take ownership of, and market to, their corporate accounts. This enables business travellers to user their lap-top PCs to accomplish many travel booking functions themselves such as: viewing flight availability, changing existing bookings, making new reservations for flights, hotels and cars, and booking completely new trips. The product comprises a number of inter-related software products, many of which are industry standard, and access to TTG's Internet server on the World Wide Web. All of the following products may be offered by travel agents to their corporate customers:

- **Personal computer software** The ResAssist '96 software runs on a variety of PCs that may use Windows, UNIX or Macintosh operating systems. It is highly likely that most of the PCs running ResAssist '96 will be lap-tops because it is the frequent business traveller who stands to gain the most from this product. The user's PC will require one of the common Internet Web browsers. To access ResAssist '96 the traveller uses the Web browser to access the travel agent's Web site (see below) and, by entering their password, gain access to a main menu of options that includes: (a) Reservations – start a new trip, view or edit an existing trip; (b) Traveller – edit traveller's profile, select another traveller; (c) Destinations – view a destination, create a new destination, edit an existing destination; and (d) Company – edit company travel settings, create new contract, edit an existing contract. Some of these functions are restricted to certain personnel within the company, such as the company administrator. Others are fully accessible by all authorized travellers.
- **Travel agent's Web site** TTG offers travel agents two options for their Web sites. Either they may use TTG's service bureau Web site and effectively rent space from TTG or they may use their own Intranet Web servers which are owned and operated by the travel agency with an on-line link into the World Wide Web. In either case the travel agents will be using the TTG ResAssist '96 software to set-up and run the systems for their business travel customers. This software allows the company's travel policy, negotiated fares, preferred suppliers and other key parameters to be stored centrally and used to control all bookings undertaken by their business travellers.

- **Internet booking engine** Travel availability and reservations are provided by TTG's booking engine, which is linked to the major GDSs of the world. Wherever the travel agent's Web site may be, i.e. either on the TTG Web computer or on their own Intranet computer, booking requests are routed from the traveller's PC, over the Internet and into the TTG booking engine computer in Dallas. This computer system translates between the simple GUI format that is presented to users of ResAssist '96 and the more complex native commands used by the GDSs.

A traveller uses ResAssist '96 by first of all logging onto the Internet through their chosen point of presence, i.e. their Internet service provider. This may of course be accomplished from virtually anywhere in the world. They then enter their travel agent's URL, which will transparently link them either to the TTG Web site or to the travel agent's own Web server. In both cases the traveller is under the impression that it is the travel agent that is providing the on-line booking service, not TTG. Travellers are presented with simple user-friendly screens formatted in standard windows style, which they complete for booking purposes. First the date and time of travel is entered, followed by the destination city. This is either done by direct entry via the keyboard or by selecting entries from a list, e.g. destination cities. Behind the scenes, ResAssist '96 sends a message to its central booking engine computer in Dallas that is translated into GDS format and sent to the relevant GDS. After a few seconds, a response is received and translated into the simple format used by ResAssist '96, before being sent to the user's PC screen. This flight availability information is received by the user within a period of 10 to 30 seconds from the time of their original entry.

ResAssist '96 offers the traveller various choices based on the corporate travel policy, negotiated fares and company preferred suppliers. The contract fares, lowest applicable fare options and best time options are clearly identified. The traveller has the option of specifying a variety of sort options in order to help them decide the best travel alternatives. Once the traveller selects their choice of flights, a simple entry confirms the booking. A similar procedure is then followed for hotel and car rental services. Again, the ResAssist '96 responses are policy compliant showing negotiated vendors and pricing. Finally, live seat maps retrieved dynamically from Sabre, Apollo and Worldspan allow seat selection to be made. By using the ResAssist '96 user-friendly interactive dialogues over the World Wide Web, the traveller can build up a complete itinerary of their planned trip. When a booking is required, ResAssist '96 brings the travel agent into the loop.

The travel agent is brought into the booking loop by means of standard GDS queuing features. Each PNR created by the traveller using ResAssist '96 is automatically queued to the travel agency, whether it be located in the traveller's home town, another city or even another country. This is just one of the powerful GDS tools that TTG has used to enhance the level of control over the booking process. ResAssist '96 therefore enhances control over the business travel life cycle by means of two key features: (i) it allows the company to maintain close control over travel policy, and (ii) it allows the travel agent to keep a quality control check over all bookings.

The corporate travel policy is built in to ResAssist '96 by the company administrator, often the travel manager. This is done via the travel agent's Web site, as described above. The administrator logs onto the site and then uses a Web page editor to enter key policy parameters including, for example, allowable fare classes per employee grade and length of flight, negotiated air fares to be used on certain journeys, negotiated hotel room rates, preferential car rental rates and preferred suppliers. All of these fields are stored within the travel agent's Web site and subsequently referenced during the booking process undertaken by the traveller.

The quality control checks that ResAssist '96 supports, are possible because all bookings and changes to booking files are channelled via the GDS queue management system, to the company's travel agent. This means that when a traveller uses a lap-top computer to make a booking, it is queued to the travel agent for quality control checks prior to ticketing. These quality control checks may include, for example, ensuring that the traveller's department code is present in the

PNR, checking that the traveller has the required travel documents for the trip and ensuring that all MIS data are correctly recorded as per company policy. Ticketing need not be restricted simply to the travel agency location. It can for instance be queued to the nearest airport to the traveller for processing as a TOD. This is a good illustration of how productive it can be for a travel agent to be kept in the loop between the traveller and the supplier and consequently protect their source of income, i.e. commission from suppliers on the sales of product.

This type of technology brings several important advantages to all participants. It provides companies with an effective way to implement their corporate travel policy. From the business traveller's viewpoint it provides direct access to on-line supplier information without having to spend a long time on the telephone, possibly to an agent back in the company's home town. Finally, from the travel agent's perspective, it takes away a great deal of the routine administrative work associated with making and maintaining a booking.

TRAVELNET

TravelNet is a product of Reed Travel Group (for more information on Reed Travel Group please see Chapter 3 – Suppliers). Based in Santa Clara, California, TravelNet developed an Intranet-based product for the business travel market. In January 1997, TravelNet was acquired by Reed Travel Group and became an integrated brand within the enlarged group's portfolio of travel-related products. TravelNet is a corporate booking travel management system that delivers benefits to business travellers by allowing them automatically to book air, hotel and car reservations directly from their desk-top or lap-top computers via a company's corporate Intranet. Using an Intranet provides companies with a higher degree of security and control over access to their travel information and booking mechanisms. However, companies have the choice of making their corporate Intranet – along with its TravelNet system – available to travelling employees via the World Wide Web. Users must, however, have an authorized user log-in, password and corporate identification to access TravelNet. From a corporate perspective, TravelNet allows travel managers to access up-to-the-minute reports to help better manage policy compliance, supplier utilization and travel costs.

The TravelNet software, which runs on the travellers' PCs, is compatible with Microsoft Windows, Apple Macintosh and UNIX-based operating systems. Using their PCs, users can access their personal profiles stored on the TravelNet server, which also holds their trip and expense histories. The workstation software allows users to specify their itineraries using a windows GUI, which is very easy to use. The basic booking screen has five vertical action buttons down the left side of the screen (New Trip, Change Trip, Get Calendar, Help and Exit) and six horizontal menu items across the top (Air, Car, Hotel, Trip Notes, Itinerary and Reserve). The body of the screen contains a set of fields that depends upon the specific combination of action button and menu item selected by the user. Finally, the desired itineraries are checked against the company's travel policies, which are stored as part of the TravelNet data base residing on the corporate Intranet.

Once a booking request has been formulated, integrated with policy and checked by the user, it is transmitted to a GDS for availability checking in real-time. Both the Sabre and Apollo GDSs are supported by TravelNet. A response from the GDS is received within a matter of seconds. It shows several options, each of which is ranked by the degree to which it conforms to the company's travel policy. This display also shows availability and other important information as presented by the GDS and TravelNet. For example, contract fares – which may have been specially negotiated by the company – are included in the availability display. The traveller can then use TravelNet to explore many 'what if?' scenarios, such as: 'Will it change the cost if I stay over Saturday night?' Finally, once an itinerary has been built, TravelNet automatically processes travel authorizations.

TravelNet uses the Intranet server to store the company's travel policy and collect management information on actual trips undertaken. Several reports are produced that may be either viewed on-screen or printed for use by the company's travel manager. Many alternative report formats are available, including tables and pie-charts. These

reports measure policy compliance, show airline market share, vendor utilization, travel patterns and trip expenditure – all of which are vital if a company is to negotiate the best possible deal with its travel suppliers. Other reports show negotiated rate utilization, total trip expenditure and travel policy exceptions. These are used by divisional line management to control costs and keep travel expenditure within operating budgets. The data reported on corporate travel reports may be taken either from bookings made via TravelNet or from bookings made through the company's travel agent. TravelNet may also be integrated with many third-party expense reporting systems.

Tourism on the Internet

The Internet is a natural medium for tourist organizations. It enables a country or area to create an encyclopaedia of information and even booking functions that can be distributed to every part of the globe accessible via a PC and modem. There are many Web sites devoted to tourism and it has been impractical for me to begin to address more than two of them here. However, I have included two relatively new and important sites that illustrate the power and reach of the Internet: the British Tourist Authority's **www.visitbritain.com** site and the Ireland national tourist board's award winning site **http://www.ireland.travel.ie**.

In reading how these sites operate I would suggest you look out for an interesting and recurrent theme that is one of the main issues facing tourism on the Web. I am talking about the ability of tourism Internet sites to facilitate bookings for their visitors. Most tourism Internet sites contain a fair amount of information on accommodation services, usually at the low end of the price scale. The kinds of establishments that fall into this category are the bed and breakfast houses and small independent hotels. Most of these do not have any kind of automation simply because they do not need it. At present, there are few third-party booking services with automated systems that could be connected to the new Internet sites. Naturally, if the visitor wishes to stay at one of the larger chain hotels then on-line booking functions via the Internet may well be available, e.g. see Marriott in Chapter 5. However, this is not often the case for the SMEs, which comprise one of the most popular sectors of the market for tourists to Great Britain. So, the nub of the issue I am addressing here is: 'How can a tourism Web site visitor book accommodation with SMEs in the destination country of their choice?'

One possible way is for the tourism Web site organization to obtain a computerized inventory control system that would enable it to process on-line reservations for rooms. There are several software packages that could support these booking functions and that could be connected to the main Web site server. The problem is that if the tourism organization were to embark on this course of action then it would need to engage in all the usual commercial activities that are a part of running a business. It would, for example, have to be contracted to card companies, contracted to the accommodation establishments, operate substantial computer and telecommunications resources, charge a commission, accept some form of liability or at least responsibility for the quality of service provided to customers and last but not least, it would need to generate a profit. These commercial activities are in many cases incompatible with the role of national or regional tourism organizations. Their constitution usually contains some form of not-for-profit business objective.

Accommodation booking services are, however, a fundamental requirement for most visitors. While some sites try to support bookings by means of electronic mail and faxes, these are nowhere near as satisfactory as an on-line booking system that immediately guarantees the visitors the accommodation they need. There is therefore an opportunity for a third-party company to provide an automated Internet booking service for SMEs. If this could be done then the tourism site could 'point' to the booking site whenever the visitors reached the stage of wishing to make firm bookings. This would seem to offer some important benefits to all the parties involved: (a) it would leave the tourism organization free to focus on its core role, which is the promotion of tourism in domestic and overseas markets; (b) it would enable the booking service company to enjoy a new revenue stream, which would not be bundled up with the tourism organization's finances; and

(c) it would provide visitors with an on-line booking tool. Only time will tell if such a service is justifiable.

THE BRITISH TOURIST AUTHORITY

The Internet could be the solution to the information distribution problem that UK tourism organizations have been seeking for the past ten years or so. It is for this principal reason that the BTA, has focused significant attention and resources on Internet technologies. These technologies open up a new distribution channel enabling information to be supplied direct to consumers and other companies such as inbound travel trade suppliers, incentive travel organizations, conference organizers, overseas tour operators, suppliers and the travel trade in general both at home in the UK and also overseas. Opening up such a direct channel offers the promise of significant increases in tourism and enhanced promotional opportunities for Great Britain 'limited'.

For more general information on the remit and functions of the BTA you really need to read Chapter 2. This should serve as the required foundation for this section, which explores the opportunities that the Internet poses for the BTA and how the organization is actively following these up.

The ETB's Intranet experiment

The first step towards realizing its goal of distributing UK tourism information via the Internet, was the ETB's *Intranet* experiment. The domain chosen was the area of nation-wide tourist information on Great Britain, so desperately needed by England's or TICs (see Chapter 2 for a description of TICs). Although larger TICs usually have their own richly populated PC data bases of local information, there is precious little on the UK at large. So, while TICs can provide assistance with local services, they find it difficult to advise tourists who call into their offices requesting guidance on other parts of the UK to which they may be travelling as part of a touring holiday. The idea behind the Intranet experiment was to fill this information gap by providing TICs with access to a sub-set of TRIPS. Briefly, TRIPS is a national UK data base of information concerning accommodation, events, attractions, English language schools and other tourist-related data that is collected by the ETB. For a more in-depth analysis of TRIPS, see Chapter 2.

For the initial experiment, four TICs were chosen. These are situated in Canterbury, Weston-Super-Mare, Greenwich and Islington. Two further TICs are to be added soon, in Manchester and Hexham. The objective of the experiment was to distribute a sub-set of the TRIPS data base to these TICs using Internet technology. Each participating TIC was equipped with a PC, an ISDN connection, a modem for back-up purposes and access to the Internet via Demon, a UK Internet service provider. The end-user browsers supported by the Intranet experiment were Netscape Navigator Version 3 and Microsoft Explorer Version 3.

The ETB set up its own Intel-based Intranet server that was hosted on a facilities management basis by an external software company. This company used a server with a high capacity telecommunications link to the Internet that supported a transmission speed of 2 Mb/s. Web servers such as this have the capability to store vast amounts of information within a searchable data base environment.

For the purposes of the Intranet experiment, the ETB decided that enquiries would be answered by trained TIC staff who would be the sole users of the system (direct use by consumers was deemed to be outside the project's scope). However, even with a user-friendly Intranet front-end, TIC tourism officers would still have needed special training in order to use TRIPS effectively. This is because TRIPS is a sophisticated system with powerful search capabilities, some of which require many parameters and are too complex to be mastered by occasional users. So, to make productive use of the full TRIPS data base, a considerable amount of training and regular use would have been necessary for all users. Because this was considered impractical for a number of reasons, another solution had to be found.

The solution adopted was simply to use only a selected sub-set of the full TRIPS data base. The ETB therefore developed an extract program that selected only those items from the TRIPS data base that were considered germane to the majority of tourist enquiries handled in TICs. An extract

such as this could be presented to TIC officers in a simple format and the system could then be used intuitively by a wide range of users with varying degrees of knowledge. Likewise, a simplified approach was taken to Web page formatting. Photographs and other multi-media techniques were specifically excluded. Only limited graphics and symbols were used and information was presented simply as text entries, just like existing information handbooks. Once this extracted and re-formatted information has been derived from TRIPS, it is periodically downloaded from the BTA computer to the Intranet Web server.

The Intranet experiment has also opened up the opportunity for TICs to enhance the ETB site with their own specialized local services. As already mentioned, TICs use a variety of PC technologies to store details of local services. In the future, one of the objectives of TICs could be to migrate this information onto the ETB's Intranet. The Microsoft product branded Front Page is being actively considered as the means of realizing this objective. Besides helping rationalize the information stored on a multitude of local TIC systems around the country, this development has the added benefit of also making even more local information available to other TICs and, in fact, to all users who the ETB decides can access its site.

The current technologies used to access the Internet are often criticized for being too slow. If all local information (currently stored on in-house PCs within TICs), were to be placed on the Intranet then it might be thought that frequently needed information would take longer to retrieve. However, storing all local information in this way need not slow down the speed in which information is accessed by TICs. It is possible to download and store that section of the Intranet information that is pertinent to a particular TIC. This downloaded information is stored on the local PC hard disk and as such is accessible within a fraction of a second.

The Intranet experiment has proved highly successful and has provided the ETB with proof that this technology can deliver real benefits to TICs. For the first time, TICs now have access to information on all areas of England; a significant improvement for any tourism-related organization. Of course, this needs to be viewed in the context of the wide variety of different types of TICs. There are some that are too small to justify an Intranet link. However, for most TICs the benefits of the ETB's Intranet link are significant. One of the spin-off benefits is that it allows them to network. This means that they are able to communicate with each other electronically and exchange information and files across the network. There are several areas for the future development of the Intranet including, for example, multi-media technologies.

The VisitBritain site

The BTA recognizes that the Internet is central to its information strategy. There are currently 50 million Internet users around the world, of which 2.5 million are in the UK, and the numbers are growing rapidly all the time with over 90,000 joining every day (source: IHBRP, Inteco Corp, 1997). With this in mind, it established an Internet site in 1996, populated by static information on Great Britain. Since its formation, the site has been progressively enhanced and developed. Although very rudimentary, it proved to be a worthwhile experiment that enabled the BTA to assess the potential implications of this new technological opportunity and decide upon its strategy for a longer term presence on the World Wide Web. Research completed in March 1997 revealed some interesting statistics on site visits, which are summarized in Table 5.3. Visits to the site increased from 70,000 per month in 1996 to an average of nearly 400,000 in 1997. A new site was therefore developed with the support of Interactive@Brann, an independent company who was also responsible for the highly successful EURO 96 Web site.

The VisitBritain site was formally launched on 16 July 1997 by Chris Smith, Secretary of State for Culture, Media and Sport. The site's address is **www.visitbritain.com** – a new world-wide Internet site that replaced the old experimental pages at this URL. This is a consumer-driven site it was developed using the experience gained from: (a) the ETB's Intranet experiment described above, and (b) the initial rudimentary site established in 1996. Its 40,000 pages of content are based largely on the information sources provided by the TRIPS data base, as described fully in Chapter 2. This

Table 5.3 Nationality of visitors to the 'old' BTA Internet site

Nationality of BTA's site visitor	%
USA	61.00
UK	13.00
Canada	5.00
Australia	5.00
Japan	2.50
Netherlands	2.50
Germany	1.50
Sweden	1.50
Brazil	1.00
Finland	1.00
Singapore	0.75

makes VisitBritain possibly the largest and most content-rich Web site originated in Britain. The site therefore contains information on the principle headings of accommodation, events, attractions, English language schools and other activities (see Chapter 2 for more information). The important point to remember here is that the TRIPS information upon which this site is based is kept up-to-date as part of the embedded life cycle of the BTA's and ETB's ongoing tourism operations.

The VisitBritain site is entirely consumer driven and is based on Internet frame page architecture. Its welcome page shows a map of Great Britain, which is the initial consumer interface page. This supports a variety of drill-down features, keywords and search engines. Special promotions are displayed to users at all times by means of Java applets that run moving image sequences across the screen. Information is generally divided into the following main categories: (i) Great Britain as a destination, (ii) regions of Great Britain, and (iii) special promotions:

- **Destination Britain** Britain as a destination presents the consumer with general information about Britain and with pertinent facts needed when planning a visit. Hot links to other sites are also embedded within many VisitBritain pages. Internet versions of successful BTA campaigns, such as the Movie Map, i.e. locations that have been the subject of films and TV movies, British Arts Cities, and Style and Design. There are also special interest sections for those keen on cycling and walking.
- **Regions** The areas of Britain begin with a page that shows a map of the UK, sub-divided into the major geographical areas. When a consumer clicks on an area of interest, a more detailed map is displayed. This process continues until a choice of specific tourist information is presented.
- **Special promotions** Special promotions show the consumer information relating to bargain breaks, special deals offered by suppliers and other incentives that are designed to encourage tourism to the UK. There will be up to ten new special offers every month from the travel industry and a media room will give journalists access to all the latest BTA press releases, media briefings, travel stories and even video footage.

The BTA site also incorporates a powerful and easy to use search engine. Consumers select areas of interest simply by clicking on check boxes and radio buttons. Specific place names may also be entered. The site then responds with all of the desired services that meet the search criteria. If necessary, a complete list of suppliers that also meet the criteria may be displayed. Many of these also provide graphical images and maps of their products or sites. Consumers may elect to store the results of their searches in private itineraries known as 'virtual brochures', which may be constructed as they browse the site. At the end of their sessions, the accumulated set of information comprising their virtual brochures may be sorted into itinerary sequences and then either: (a) stored on the site for future reference, or (b) downloaded to their PCs for local storage and printing. A virtual 'shop' is also provided that enables consumers to purchase books, guides and gifts with secure on-line payment using their credit cards. The following is a quick summary of the main action button that site visitors may click on to see what is available on the VisitBritain site:

- **Introducing Britain** A whistle stop tour to give the uninitiated a taste of all that Britain has to offer.

- **The Shop** Visitors can choose from 39 books, guides and gifts. Secure on-line payment can be made by credit card, phone, fax or e-mail.
- **Facts and Figures** For students, the travel industry and the more serious minded tourist, this part of the site features detailed information on Great Britain, its constitution and the economy.
- **Special Offers** Up to ten new offers every month from the travel industry – tour operators, hotel groups, destinations.
- **Search** The VisitBritain search engine can select items of interest from the 40,000 pages that make up the site.
- **Destinations** England, Scotland and Wales and all their regions, areas and towns, including many links to other sites.
- **Home** This is a tab that is always displayed on every page and enables visitors to return to the home page from wherever they may be within the site.
- **Activities and Attractions** Places to visit, food and drink, culture, sport and other things that potential visitors would be interested in.
- **E-mail** Site visitors may easily send the BTA an e-mail simply by clicking on an envelope icon at the top of the page.
- **Full Index** This contains an alphabetic index of all the pages of information that are held on the site.
- **Virtual Brochure** Visitors can accumulate information within their own virtual brochures but they must first register with the site in order to use this facility.
- **Map** Click on the map image to zoom in on regions and areas. From icons on the map visitors can access any of the 40,000 records with information describing England, Scotland and Wales. This includes accommodation, events, places to visit, TICs and language schools.

One of the most important features of the VisitBritain site is the accommodation section. This can be reached by several routes, the main ones being either the search engine or the map. Once a site visitor has specified the area and type of accommodation required, they are presented with a list of several possible places to stay. Each shows a full set of details about location and amenities, as well as the price. Because the VisitBritain site is not currently connected to any on-line booking system, this information is static. So, it is impossible at present to know whether or not the room in a particular establishment is available for certain specific dates. The site does, however, put the visitor in contact with the selected property by one of several means. First of all, if the property has an e-mail address then a request for reservation is e-mailed to them. Otherwise, if the property has a fax machine, a pre-formatted fax message is automatically sent. Finally, if the property has neither e-mail or fax then the VisitBritain site will generate a printed reservation request that is delivered by regular mail. While this is adequate for the present, an on-line booking facility would be preferable. This is something that the BTA may therefore well have under consideration for the future.

A particularly important feature of the site is data base marketing. This is made possible by the customer registration process. While casual site visitors may browse the site and obtain a great deal of useful information, the more serious site visitors are encouraged to register. Site registration must be completed, for example, before a visitor can start building their virtual brochure. Registration entails the site visitor entering some data (including their e-mail address), which enables a personal travel profile to be assembled by the BTA. When coupled with information on how this person actually used the site and what pages they viewed, this should enable a very powerful and accurate customer data base to be accumulated. As I have already mentioned in the section on marketing of this chapter, this is a critical feature of any Internet site. It should enable the BTA to target customers from all around the world with e-mail containing information that is particularly relevant to its particular interests in Great Britain. The marketing and promotion opportunities that could be generated as a result of this data base are enormous: in the not too distant future, this will enable the BTA to program the site so that each time a registered individual visits, it will show them the special interests they asked to see.

Companies can advertise on the VisitBritain site in a number of ways. First, there are special offers and promotions. A company can have its

special offer mentioned on the home page and featured in the section reached by the Special Offers button. Then there are banner advertisements. These appear on the home page and other strategic points throughout the site. They allow the user to be routed automatically to an advertiser's own site by simply clicking on the banner itself. The BTA will also allow whole sections of its site to be sponsored and interactive partners with their own Web sites can participate in collaborative promotions with the BTA. Finally, there is the search engine. Companies can have keywords of their choice included within the VisitBritain search engine parameters and also in hot links throughout the site.

In designing the VisitBritain site, the BTA recognizes that consumers in different parts of the world will need to view it through a local gateway. By this I mean that they will need to be able to see certain items of information that are particularly relevant to them and ideally communicated in their local language. The BTA therefore intends to develop customized market gateways in North America, Japan, Australia and Singapore. These will allow overseas BTA offices to work with local partners to provide travel information and special offers translated into the home language and tailored towards its specific customers in these important inbound market areas. Opportunities also exist for British companies with a strong presence overseas to work with the BTA in all major markets. There will also be hot links into parts of the main site that most appeal to the market segments already identified by BTA as priorities. The BTA will promote the VisitBritain site by including the URL, i.e. site address, on all 128 titles of its literature, which are published in 25 languages producing 18 million copies world-wide.

Eventually, once the consumer aspect of the site is up and running, the intention is to develop a market facing aspect of the site. This will be a virtual Intranet because it will embody pages that can only be accessible by registered trade bodies approved for access by means of password control. This site will, for example, provide special rates on accommodation and attractions that may be of interest to a tour company considering creating a UK inbound package holiday for sale in its local overseas market. There will also be general information that tour companies need to create tours and facts on specific market segments. In short, the site will provide tour operators and other companies with all the information they need to bring visitors into the UK.

The technology

The 1997 VisitBritain site is totally new in terms of its presentation and user interface. Although designed using the experiences gained from the 1996 Intranet experiment, the new site offers some significant improvements and enhancements, many of which are based on Microsoft SeQueL Server technology with Internet Adapter. This handles user registration and holds 40,000 records of hotels, places to visit, events, TICs and English language schools. Behind the scenes, Microsoft Usage Analyst allows the BTA to monitor who is using the site and how they are using it. The BTA has applied to one of the industry's leading Web site auditors, ABC Electronic, for certification of its traffic audit, which is generated internally.

The VisitBritain Internet server is a Compaq Proliant 200 MHz Pentium Pro with 120 Mb RAM and 20 Gb of RAID disk array that is currently run on a facilities management basis, just like the ETB's Intranet experiment. However, the BTA is considering moving its new server so that it is co-located at an ISP's premises. The current Web site uses Microsoft's Internet Information Server (IIS) Version 3, which is used to deliver pages to site visitors. Active server pages (ASPs), customize the data base content and allow pages to be built on the fly.

A software product called MapObjects ActiveX and its components provide the interactive maps for the VisitBritain site. Internet Map server ActiveX's components talk to the Internet server applications program interface (ISAPI) filter of IIS to integrate MapObjects with IIS. This system processes and creates the maps in parallel with the Web server allowing more users to be processed simultaneously. Black Diamond's Surround Video is used to bring images of Britain (including the Silverstone racing circuit and Avebury's stone circles), to life.

Like the experiment, end users may use Netscape Navigator Version 3 and Microsoft Explorer Version 3 to browse the new BTA site. These

browsers support the frame-based construction that has been used to build the pages for this site. Less sophisticated browsers are also supported but these will not allow the user to enjoy the frames, Java applets and Giff images that really bring Internet pages to life.

Implications for Great Britain's tourism

In my view, these new developments in IT that the tourism organizations of Great Britain are pushing forward, offer significant potential for radical change in the way tourism is promoted and supported around the world. In this section I will give my own opinions on some of these implications.

Looking to the future, I think it could well be that the VisitBritain Internet site will eventually replace the PIMMS marketing and brochure distribution system (see Chapter 2 for more details of PIMMS). Instead of overseas consumers contacting their local BTA offices either by telephone or by visit, they could instead access BTA's site on the Internet from their home or office PCs. Access to the site could in many instances provide the answer to the consumer's or the travel company's query. In cases where a brochure is still required, the request could be logged by the Internet site and fulfilled centrally. This will depend upon the growth in the number of consumers who are able to access the Internet. This in turn will undoubtedly depend to a large extent upon the wide-scale availability of enabling consumer technologies, such as net-PCs and digital interactive television.

In my view, this could have far reaching consequences for the BTA's *modus operandi*. Depending upon how the service is received and on the take-up of the Internet overseas, this development could result in substantial structural implications for the BTA's organization and deployment of resources. I think there are at least two significant opportunities that the Internet offers the BTA: (a) electronic publishing, and (b) central distribution. I'll consider each opportunity in turn:

- **Electronic publishing** BTA offices often stock up to as many as 300 different brochures. Now, brochures are costly to produce and incur an overhead in distribution, stocking and logistics. They also need to be regularly updated and consequently there are occasions when substantial amounts of out-dated stock may be destroyed. So, publishing this kind of information electronically offers the BTA a chance to reduce these costs and at the same time provide more up-to-date information for consumers and travel companies.

  It is perfectly possible for much of the information included in brochures to be made available on the Internet, including photographs, pictures, maps and graphics. In fact by comparison with paper publications, the Internet offers a wider range of media for bringing electronic brochures to life, including sound bites and interactive dialogues. Besides on-line use, many travel companies and an increasing number of consumers can already download information for local viewing and printing. As the Internet gains in popularity and usage, electronic publications of this type will become ever more popular.

  Many of the BTA's publications are printed in several languages, in addition to English. But because the generally accepted language of the Internet is English (or rather American!), it is quite possible for the electronic brochures to be published on the Internet in English. In the future, it may even be possible to use special software to translate English language text automatically into a foreign language. This is yet another factor that should allow the variety of different brochures to be reduced.

  When all of these things happen, I think the BTA could be attracted to undertaking a redesign of its range of paper-based publications and streamline them significantly. No doubt certain items of information will always need to be printed on paper. However, a significant proportion could well be produced and distributed electronically, direct to consumers and travel companies. Because printing and distribution costs are a major item of operating expense, the BTA could use the funds thus liberated for further promotional programmes that encourage tourism to Great Britain.
- **Central distribution** If the VisitBritain Internet site is indeed successful and is heavily used, then I can foresee a situation where overseas BTA offices could well require fewer local resources.

Instead of visiting or telephoning the local BTA office, consumers and travel companies would access the VisitBritain site on the Internet. Either the site would provide the information required or it would support automated brochure requests. In my view this could create the demand for a new central distribution facility whose role would be to fulfil end-user requests for brochures and other paper-based products.

This central facility would receive requests for brochures and other items of information from consumers and travel companies in other countries. Such requests could be effectively dealt with by a high volume fulfilment service. I think this new fulfilment service could be provided in one of two ways: (a) it could be set up by the BTA itself using in-house resources, or (b) it could be out-sourced to a private company and provided to the BTA on a facilities management basis. It is quite possible for this distribution facility to be created in regional areas or even possibly on a global basis. However, the overriding factor will be the need to supply the customer with the information requested in the shortest possible time.

These are just two examples that I have constructed to illustrate how the Internet could pose a significant opportunity for tourism companies and organizations. An opportunity for them to improve their interactions with customers while re-structuring their organizations for increased productivity. Such services on the Internet have the advantage of being centrally controlled yet can be accessed by a variety of means. They can be accessed from a consumer's home PC or a company's office workstation. They can also be used by BTA staff in overseas offices to service those customers who do not themselves have access to the Internet. Finally, they can be piped into a customer service kiosk that may be located either within the BTA office or in a public area such as the local high street or an airport.

Besides the provision of tourist information on Great Britain, a key requirement from a consumer's viewpoint is the ability to book services via the BTA's Internet site. However, although the site may well incorporate so called 'hot links' to the reservation systems of major companies, there is no such facility for SMEs. So, for example, even though it would be extremely useful for consumers to be able to view bed and breakfast establishments, make a selection and then book a room for a particular range of dates – this function is not supported directly by the BTA.

The reason for this is principally because the BTA is not a commercial organization with a charter to compete with the private sector. It is primarily funded by the UK Government and is not driven solely by the need to make a profit. Having said this, it needs to generate sufficient revenue in relation to the grants it receives. This enables as much burden to be taken off the UK taxpayers as is feasibly possible within the bounds of the organization's charter. As such it would not therefore be within the BTA's goals to provide a commercial revenue generating booking service on behalf of suppliers, which could end up competing with the private sector.

But even though the BTA's Internet development programme has no specific plans for the provision of an on-line supplier booking function for SMEs, there is nevertheless a market need for such a service. This offers a real opportunity for a third party service provider. Such a company could create the infrastructure necessary to enable bookings for SMEs to be taken over the Internet. Consumers could use the BTA site to view areas of the country, browse alternative suppliers in the SME category and then be linked automatically to the third party company's booking site on the Internet. However, at present, I do not know of any plans to develop such a capability.

Access to a supplier's product inventory is a natural extension of the information services provided by the VisitBritain site. It would enable consumers to go one step further than basic information gathering and allow them to use a booking engine to buy products and services directly from suppliers. In all probability, a third party booking site would be a separate Web site owned and operated by the service provider. It would take a service already selected by a consumer and show the up-to-date availability. The consumer would then be offered the ability to confirm the booking and guarantee the reservation by paying a deposit using a credit or debit card. The

Figure 5.54 VisitBritain home page (above)
Figure 5.55 Search page (above right)

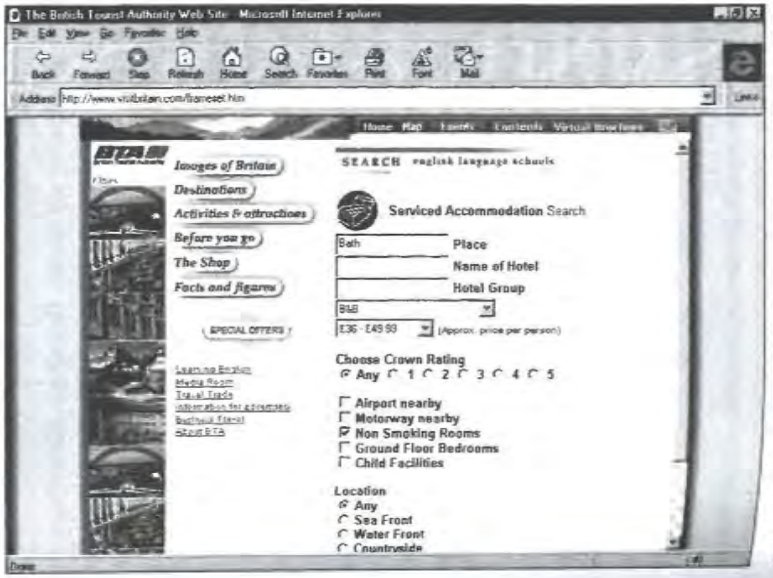


Figure 5.56 *Search parameters (bed and breakfast)*

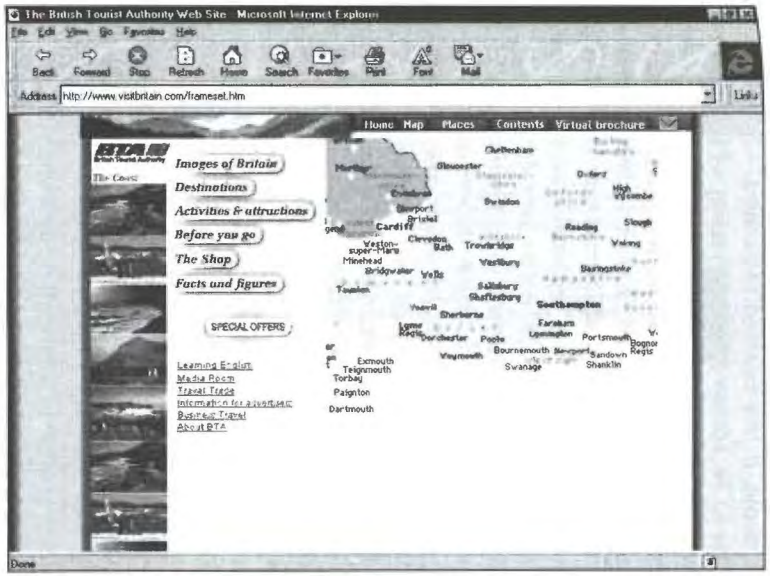


Figure 5.57 Bed and breakfast in Bath (above)
Figure 5.58 Area map (above right)

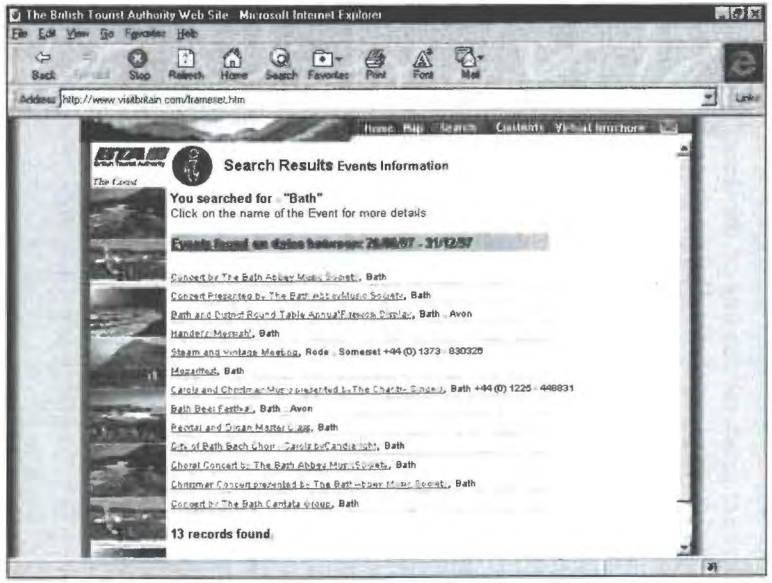


Figure 5.59 Events in Bath

company could then use some form of EDI message for booking purposes, like the TTI RESCON approach (see Chapter 1) and thereby derive a commission from the SME supplier. The BTA would no doubt encourage the development of a service like this because it promotes the UK as an inbound destination for overseas visitors, is an excellent extension of the BTA Internet site and yet does not directly involve the BTA in a commercial activity.

Finally, the feedback mechanism is an important feature of Internet technology that should not be overlooked. This is the ability of the Internet software products running on the server to keep a log of how many times the site has been visited and how users navigate their way around the pages of information. This feedback allows the BTA to keep track of how consumers are using its site, what the most popular pages are and how the data base is being searched.

GULLIVER

Gulliver is the name of Ireland's national tourist information system, which is described in detail in Chapter 2. The re-engineered Gulliver system has provided a springboard from which to launch a very effective Web site of information on the island of Ireland. In December 1996, Gulliver was launched on the World Wide Web. It is accessible via the Tourism Brand Ireland Web site and its URL is **http://www.Ireland.travel.ie**. It has already won an International Gold award as the world's best tourism Internet site at the ENTER '97 Tourism and Technology conference in Edinburgh and was selected by Yahoo as its 'world-wide pick of the week'. The information contained in the Gulliver data base provides the foundation for this Web site. However, at present it is only the items of static data that are replicated for display on the Web. Topics include sections on how to get to Ireland from different countries, places to stay, things to do and general tourist information.

The Internet has opened up Gulliver to users around the world who are offered a wide variety of information about Ireland that is portrayed using modern technology-based media. Even from an internal perspective, it has delivered many benefits to Bord Failte (the Irish tourist board). For example, it has enabled the central Gulliver data base to be accessed from a variety of local tourist offices, each using different technologies, e.g. Apple and various PC systems. Browser technology, such as Microsoft Explorer, has provided a platform from which these end users can benefit from full inter-operability at minimal cost. But in terms of international usage, it has been found that 75 per cent of the site's visitors to Gulliver are USA-based, a market of prime importance to Bord Failte. Besides text-based information extracted from the Gulliver central data base and formatted for Internet browsers, the Web pages also show pictures of properties, famous sights and accurate maps. In only a short time, the Gulliver Web site has become a comprehensive, interactive multimedia brochure on the subjects of Irish tourism, goods and services.

Users may select hypertext links to browse through the site and find the information they require or they can use a powerful form-based search engine to find more specific data. This search engine enables users to navigate their way easily around the massive Gulliver data base. The front page of the search engine shows a map of the island of Ireland, which clearly identifies all 32 counties. On the same page is also shown a list of topics of interest and activities such as, for example, horse-riding, golf, sailing, pubs and so on. To use the search engine effectively, a topic 'box' is checked and a county is selected from a drop-down list box. The instruction to search the data base may then be given and after only a few seconds, the users are presented with a set of customized information pages and references relating to their enquiries.

An additional innovative feature of the site is the ability for users to build up electronic personalized brochures and itineraries covering their planned trips. As pages of interest are found, they may be selected for storage and accumulation. These pages may, for example, include maps, pictures and accommodation details. Once a user's search is completed all accumulated pictorial itinerary information pages may be downloaded and printed by the user. There are even plans to develop the site further so as to support electronic bookings (which are in any event already a feature of the Gulliver core system – see Chapter 2).

Figure 5.60 The Gulliver home page (above)
Figure 5.61 Gulliver – How to get to Ireland (above right)

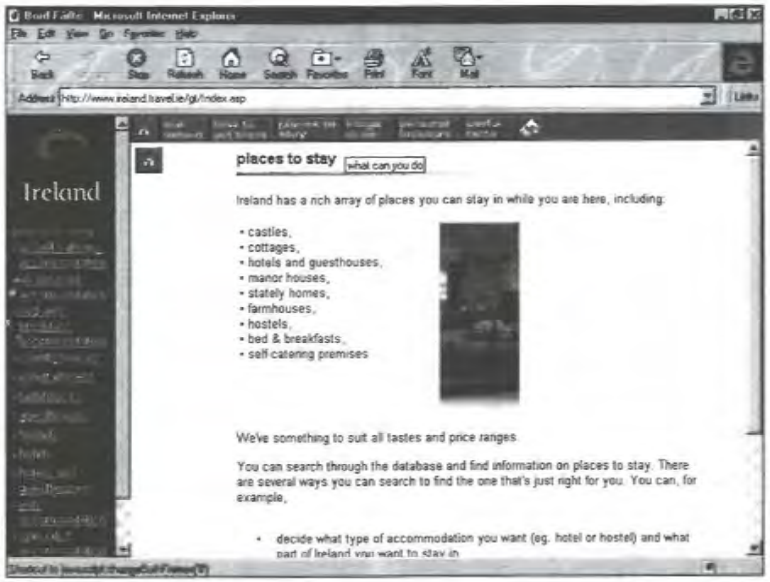
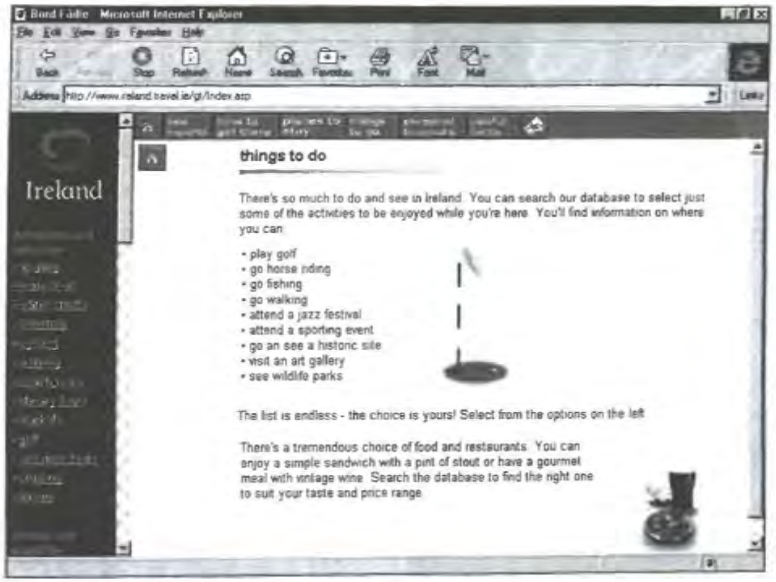


Figure 5.62 Gulliver – Places to stay



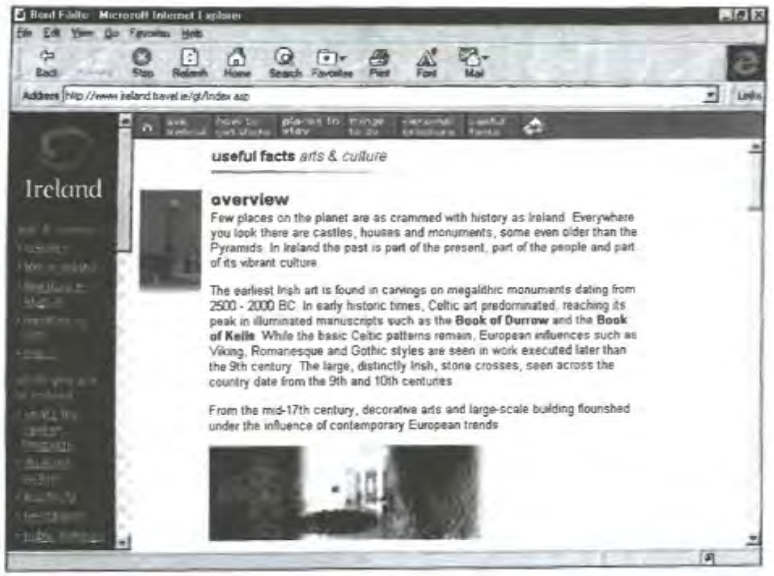


Figure 5.63 Gulliver – Things to do (above)
Figure 5.64 Gulliver – Ireland Arts and Culture (above right)

Figure 5.65 Gulliver – Mapping

The Gulliver site was developed over a period of just six weeks, starting in mid 1996, by a team formed from Bord Failte, the Gulliver Tourism information and reservations network, Microsoft Consulting Services, Internet Business Ireland and Flexicom. The heart of the site's functionality is made possible by the Gulliver data base. This was jointly developed by Bord Failte and the Northern Ireland Tourism Board as part of the revamped Gulliver project. It is maintained by Microsoft's SQL Server and is a distributed data base with a central version that is used to drive the Web pages. The central data base serves as a publisher of information, which is replicated and stored at remote sites where it is used by local tourist offices. Locally applied updates are consolidated at the central site, which is updated overnight. The updating of the central data base and the functions that keep track of remote changes are handled automatically by Microsoft's SQL Server.

The underlying technology used to construct the Gulliver Internet site is based upon the Microsoft BackOffice set of products. A key part of the site's platform is the IIS. This runs under Windows NT Server Version 4.0, a leading Microsoft operating system. IIS supports the maintenance of static information content and its presentation as Internet pages. It also manages the exchange of information between the Web server and the main data base controlled by Microsoft's SQL Server as described above, which is so critical for 'on the fly' Web page construction. This is a technique that allows the core data to be maintained separately from the Web page formats. Separation of these functions allows end users to maintain and update the information content without having to worry about its effect upon the Web page layout.

Another key IIS function is the ability to recognize the end user's browser and optimize the Gulliver pages for that particular site visitor. This allows site visitors who may be using an old version of an Internet browser to access fully the information content of Gulliver. The main drawback experienced by these users will be the possible lack of some images, especially those animated graphics driven by Java applets and their exclusion from any possible on-line payment or booking functions that may be introduced by Gulliver in the future. Finally, ActiveX technology is used to provide 360° Surround video. This enables site visitors to control their view of a wide-angle picture by using a PC's mouse. This is an impressive feature that can help convey a sense of actually 'being there' to the end user by allowing them to pan around a colour photograph of Ireland.

One of the next steps in developing Gulliver is to add a route-planning engine. This will allow visitors to specify the places they wish to visit and request Gulliver to work out the optimum routes, based on several parameters specified by the site's visitors. It will be of special assistance to anyone who does not have an in-depth knowledge of Ireland. Also under consideration is an on-line booking service for accommodation. However, these and other potential enhancements require a substantial amount of funding, and it is the source of the required investment that is the main issue for the future development of Gulliver. This growth and development is, to a large extent, dependent upon Ireland's plans to privatize the system and its related infrastructure. If a suitable commercial owner/operator can be found then it is highly likely that the Gulliver site will be enhanced and broadened even further.

Travel information on the Internet

There are a number of sites on the Internet that provide travel-related information. These sites are extremely useful to travellers during the planning stages of a trip. It would be virtually impossible for me to review every single information site on the Internet. However, here are just a selected few of them.

WORLD TRAVEL GUIDE ON-LINE

This is an interesting and very informative site with vast amounts of information available via an excellent indexing system. It is provided by AT&T and the Columbus Group and may be found at **http://www.wtg-online.com** (Fig. 5.66). The basis of the site is the information gathered by Columbus Press and used to publish its travel book entitled *The World Travel Guide*. Like the book, the site contains maps, pictures, climate charts, health/visa requirements, tables and data for every country

Figure 5.66 The World Travel Guide home page

of the world (including Antarctica). There are two search engines. The first locates a country and a topic and the second is branded HotelFinder:

- **Country/topic** Countries are selected by either clicking on a map of the world or by selecting the first letter of the country name. In either case, an index of countries is displayed from which any one may be chosen. At the country level, a variety of topics may be explored.
- **HotelFinder** As the name implies, HotelFinder navigates a large inventory of the major hotel chains. The display shows the hotel name, the city and the telephone numbers (both voice and fax). A useful facility is the option to specify a hotel chain and to include key words for searching purposes.

In addition to comprehensive information on each topic, the user is presented with a choice of products and suppliers related to the topic. Categories include transport, accommodation, business, essentials, social, addresses, travel and resorts. These categories present valuable information and in many cases also direct the user to either: (a) the latest relevant product information held within the site, or (b) to external sites on the World Wide Web. Two sections on travel news are presented: (i) World Travel Guide News – travel news and stories from around the world, updated daily with

Figure 5.67 World Travel Guide – example screen 1

Figure 5.68 World Travel Guide – example screen 2

hotlinks to the core site and contact addresses; and (ii) World Travel Guide Features – a section of monthly editorials on a range of travel subjects linked to the Information Provider pages of the site. Both sections attempt to encourage users to visit the site and add value to information providers.

WEISSMANN TRAVEL REPORTS

Weissmann Travel Reports is a part of the Reed Travel Group. It is a leading provider of destination information to the travel industry and is accessed by millions of consumers via on-line computer services and Web sites, software applications, print publications and privately branded licensing agreements. The data are available by country profile (every country in the world), state/province profile (USA and Canada), city profiles of the most visited cities world-wide and cruise port-of-call profiles (all major ports in North America and the Caribbean). In all, the data bases include comprehensive unbiased and frequently updated information on more than 10,000 cities. There are several printed publications available from Weissmann Travel Reports. For the purposes of this book, however, I have chosen to focus on its electronic products, which may be summarized as follows:

- **Weissmann for Windows** The Weissmann Travel Reports, which are distributed by print subscription services, also are available via a Windows program that allows users to draw from all data bases to produce highly customized reports for travellers. This electronic publication is available on a subscription basis and the data is updated monthly.
- **Weissmann Travel Reports on-line with System One/Amadeus** The information in the publication entitled *North America Profiles and International Profiles* can be accessed on-line with System One/Amadeus, via a main-frame computer. This information can be customized by travel agents for their clients.
- **Travel Corner, America On-line** Weissmann Travel Reports has hosted *Travel Corner*, a core travel service on the 'travel channel' of America On-line (a leading ISP), since 1993. Features include portions of the destination databases, a Late Breaking News service, Virtual World promotional opportunities for travel suppliers, an Exotic Destination Message Centre, contests, Web links, Ask Arnie travel advice column, Top 10 Picks, Destination of the Month, an electronic travel photo album, a mechanism for ordering individual destination reports and advertisements with click-through Web links.
- **Travel Corner on the web** A Web site that includes some of Weissmann's America On-line features as well as original travel feature articles written by Weissmann editors, an interactive Travel Personality quiz, reviews of selected travel Web links, slide shows and an interactive directory of subscribing agencies.
- **Weissmann Travel Reports' Internet licences** Weissmann Travel Reports has licensed portions of its information to several travel-related Web sites.
- **Weissmann Travel Reports on CD-ROM** A read-only CD-ROM version of Weissmann for Windows. Sold exclusively to the library and education markets.

The subscription services have a total circulation of more than 4,000 travel agencies, mostly in the USA. More than three million verifiable impressions of Weissmann Travel Reports are made annually via consumer on-line services. Although Weissmann does not accept advertising in print publications, it does accept inserts into its update packages. It also supports promotion and advertising for on-line computer-based electronic publications as well as for its own Web site. Weissmann Travel Reports offers a service for Web buttons and banners that supports advertisements for both its America On-line areas and its Web sites. Virtual World is a service offered in conjunction with an established multi-media advertising agency to create promotional destination areas for Weissmann's consumer on-line services.