



Manchester Airport's Web presence takes off powered by IBM technology



Management Summary

Manchester Airport business requirements dictated that the organisation develop a significant, commercial Web presence. When translated into IT terms, this meant that the airport was faced with the challenge of integrating people, processes and existing systems with new Internet technologies. This is the story of how Manchester Airport, its service partner KMPInternet.com and IBM combined to create reliable, streamlined, commercially valuable services that are accessed by tens of thousands of travellers every day of the year.

Background

In the world of travel nothing stands still for long and this is certainly true when it comes to air transport. Manchester is one of the busiest airports in the United Kingdom and currently handles approximately eighteen million passengers every year. Its customer profile includes a relatively high percentage of business travellers mixed with recreational customers flying on both scheduled and charter airlines.

Back in 1926 the far-sighted city fathers of Manchester recognised that unless they established a permanent airport the city would suffer commercially. As a result of their efforts the first Manchester Airport was built. Over time the airport relocated and grew until in 1986 Manchester Airport PLC was formed to manage the running of the airport, the shareholders being the ten districts of Manchester.

MANCHESTER AIRPORT SOLUTION AT A GLANCE

CORE FUNCTIONALITY

Design and implementation of a sophisticated, simple to use document publishing system; the development of a major customer-focussed Web presence; integrate partner's systems to provide selected services to customers through the Internet.

SOFTWARE USED

IBM Lotus Domino (Content Management System built with Domino)

IBM WebSphere Application Server

IBM WebSphere Commerce

IBM Lotus Notes

IBM DB2 Universal Dabatase

BUSINESS PARTNER

KMPInternet.com

BUSINESS BENEFITS

Dramatic airport passenger numbers growth

Web hits increase from 70,000 per day in 1999 to 400-500,000 per day in 2001

Manchester Airport Car Park net income growth from 5% of total revenue to 90%

Improvement in local community relations

Increased staff productivity through use of automatic Web document publication system

By 1999 Manchester Airport had a thriving business and carried the largest number of passengers in the United Kingdom of any airport outside of London. However, with the forward thinking for which the airport is renowned, it was decided that there was still a lot more that could be achieved.

❖ The Business Issues

In common with many enterprises, the airport recognised that the Internet could have a significant impact on its business model and set about investigating how it could exploit the potential of this new medium. Peter Burgess, General Manager of IT at Manchester Airport, explained, “We had a Web site but not a Web presence. We wanted to put Manchester Airport onto the e-map and use the Internet to establish and promote our brand. It was essential that we create a quality site with rich content. The challenge was clear. We needed to integrate people, processes and systems to bring further value to our business.”

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— Peter Burgess, General Manager of IT, Manchester Airport

As Burgess explained, “To all intents and purposes an airport is a utility. At its heart it is a strip of concrete on which planes land and take off. The question was how could we add more value to the business through promoting ourselves on the Internet? We came to the conclusion that we needed to provide travellers with services that would enhance their overall experience of using the airport.”

From this premise Manchester Airport decided to create a genuine Web presence that could then be further developed to supply viable commercial income streams. In effect the airport was looking to use its expanded Internet presence to increase its bottom-line profitability. A dynamic Internet presence would help boost the number of travellers using the airport, itself adding to the airport’s bottom line, and open up the possibility of generating extra income via the e-commerce potential of such a Web site. “We wanted to provide Internet surfers with facilities to come to an electronic version of Manchester Airport and share facilities without having to travel to the physical airport”, said Burgess.

Given the complex relationship between the airport itself and the companies that operate within its boundaries it was readily apparent that the business objectives of the airport would need to be handled sensitively in order to maintain the high level of rapport enjoyed between all parties.

Finally, as an organisation that is owned by a number of local government councils, the airport was very concerned to serve not just its direct customers but also the members of the surrounding communities. To this end it was decided that the site should offer local residents information and advice with regard to any way in which the Airport might impact their lives.

The Selection Process

❖ Smartsource

Manchester Airport likes to take an innovative approach when it comes to the running of large projects and has adopted a groundbreaking methodology covering the development and operation of complex systems. In essence the airport has adopted a process named Smartsource to implement any solution that requires resources that may not be readily available within the organisation.

The Smartsource concept revolves around the airport acquiring partners to provide any skills in which the airport does not have the expertise internally. Smartsource then seeks to use these resources to build solutions whilst the airport's own resources provide its services where appropriate.

In order to build a Web presence Manchester Airport recognised that it did not possess either the skills required to design the site or those necessary to develop the complex integration steps in order to make the site a dynamic, functional system. Clearly specialist partners would be required. The company chosen to build the new system would be retained to provide second level support on the application itself as well as being available for future development work as and when required.

However because of the importance that the new site would have to the ongoing business of the airport, it was decided that the airport itself would host and operate the solution. Operating the system on site gave the airport the opportunity to ensure that the operational quality of service delivered could be best managed to meet the needs of the business.

Burgess explained some of the reasons behind this decision. “We knew that to create the presence we were seeking we would need to build a solution capable of integrating with many existing systems, including the site itself, CRM, database and messaging systems along with the platforms used by our partners and suppliers. There are many individual tools available but we wanted to make use of a single supplier if at all possible.”

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❖ The Selection of Technology

When it came down to selecting technologies the customer was keen that the new Web site should make use of existing systems wherever possible. Equally it was important that the solution fit in with the company's existing profile of support skills in order that the existing staff could effectively manage the ongoing support. Early on in the project the airport decided that it would define the high level architecture of the technical infrastructure requirements leaving the selected supplier to design and build the solution.

At this time the airport already employed a significant Lotus Notes implementation to support several business processes. Following a high level investigation of tools that could be deployed as part of the new solution the airport quickly concluded that IBM, the owners of the existing Lotus Notes technology, itself could supply a significant tranche of the required functionality.

Burgess went on to state: “For these reasons we decided that IBM technology should form the backbone of the solution. We already made extensive use of Lotus Notes and when we looked at DB2 Universal Database and the WebSphere family we found them to be rock-solid products. IBM was the only vendor capable of supplying the industrial strength tools with the essential integration capabilities required. Consequently the airport decided one of the fundamental Web site project prerequisites, namely that IBM technology should form the backbone for the new Internet systems.”

It is the opinion of Bloor Research that the airport’s decision early in the process to specify the underlying IT infrastructure toolsets demonstrated a keen awareness of the impact that the selection could have upon the long-term success of the project. The decision to utilise Lotus Notes, DB2 and WebSphere solutions from IBM at the heart of the backbone had a significant impact in diminishing many of the system development and integration issues inherent in such projects.

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❖ The Selection of the Service Supplier

After deciding that IBM technologies should play a major role in the eventual solution, Manchester Airport had next to consider whom they would select as its Smartsources partner in the project. Once again, the airport had very strong selection criteria that any prospective solution provider must be capable of meeting.

It was clearly imperative that the chosen partner be able to demonstrate extremely high technical skills in the design and development of complex, full functional Web sites that integrate with significant backend systems. The airport had a very clear requirement that the supplier selected be qualified to operate as a ‘one stop shop’ partner who would assume full responsibility for the design, building and installation of the Web site. Clearly it would also be essential that the partner would need to be able to provide full twenty-four by seven operational support of the whole software package once it became operational.

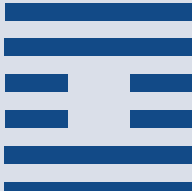
However, in addition to these relatively straightforward technical requirements, Manchester Airport was eager to work with a partner capable of understanding the business in great depth and detail. As the airport was keen to create a Web presence that would attract users it was clear that the supplier would need to be able to recreate on the Web site many of the functions and activities that were traditionally handled by 'real people'. In order to offer these services online, the partner would have to work very closely with various lines of business within the airport in order to build the new electronic services. Only by working with a wide range of people would the partner be able to understand the business issues and to transform the key processes that the new site would support into a high quality technical solution. In effect, the partner selected would need to be able to communicate with business users unfamiliar with IT technology and its associated jargon.

Manchester Airport recognised that the new Web site would quickly become a fundamental component in its daily operations and it was clear from the outset that the content of the site would need to become a living entity reflecting the changing face of the airport and its services. With these thoughts in mind it was quickly decided that the partner would be required to maintain a significant local presence.

During a selection process that saw four potential candidates short-listed, it was apparent that each of the companies under investigation was more than capable of supplying the technical skills that the project required. This allowed the airport to concentrate on picking a partner who would deliver the creative and strategic thinking that could not only build an Internet site capable of attracting passengers to the airport but also provide ideas for the ongoing development of the site.

Amongst the candidates, KMPInternet.com is a company based less than six miles (eleven kilometres) from the airport boundary in Stockport. The company concentrates on building applications that enhance customer relationships and provide systems that encourage users to take action online. It is interesting to note that the company places very high importance on understanding the needs of users and building backend administrative interfaces to make the Web site easy for the client's staff to update.

In March 2001, KMPInternet.com was selected to be the Smartsource partner. The company boasted solid design and technical skills and it was very comfortable working closely with non-technical staff.



Bloor Perspective

Travellers demand that airport information be accurate and up to date. This requires that material be made available in a timely fashion. The use of Lotus Domino in the publishing process has put a system in place that lets the people who know what is going on at the airport publish the information as effectively as possible.

The Project

At the commencement of the development process, KMPInternet.com and Manchester Airport decided on a two-phase approach. Phase one of the project would see the airport achieve its goal of creating a true Web presence that attracted travellers to the site whilst building Manchester Airport brand awareness. Phase two would then build on the established brand by bringing commercial activities to the site to allow travellers to purchase online goods and services from the airport and its partners.

❖ Phase One

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From the very beginning Manchester Airport was very keen to ensure that the new Web site accurately reflect the fundamental business requirements of the airport's community and with this objective in mind a small core team was set up to manage the project. The core team consisted of a Business Analyst/Project Manager, an IT Technical Architect, Business Process Manager and the Smartsource Contract Manager.

Discovery

This core team tasked KMPInternet.com to undertake an intense discovery process in order to assess accurately the needs of the many user communities within the airport. In line with the philosophy of working directly with the business users, KMPInternet.com interviewed over thirty representatives of the different departments to understand what they required the Web site to deliver and to record the current business processes in use. From this work it was then possible to model the processes, establish how information flows could be streamlined and confirm the routes and authorisation processes that would be required to be in place to manage the publication of information onto the Web site by the users themselves.

Design

To create a blueprint for the new Manchester Airport Web site, the design work incorporated information obtained from the end-user community, as well as information derived from other airport and holiday and travel supplier Web sites. This blueprint incorporated a global design for the entire Web site structure and formalised how elements such as the processes covering the updating of content, workflows and the flight and hotel booking processes would function. The design also covered how the various real time information feeds (such as flight arrivals and departures) would be incorporated into the Web site.

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KMPIInternet.com emphasised that the part of the eventual structure that took the most time and effort to design was the Content Management System. The issues revolved around the complex publication approvals processes that needed to be modelled to allow users to control the entire publication process themselves without the need for intervention or action from IT personnel. In fact it took a great deal of effort to define the various approvals processes and to get such processes agreed by all departments in the Manchester Airport staff community.

It is interesting to note that it was decided very early on that the technology tools employed to deliver the service would have to fit around the creative and multimedia requirements defined by the users rather than to describe what the tools could deliver and then fit the user processes to the tool. It was discovered that the Lotus Domino technology was extremely well suited to this mode of working and it was relatively straightforward to fit Domino to the creative inspiration of the users rather than forcing their spirit to fit the software.

Scope

Another integral facet of the initial work addressed the issues surrounding how the various areas of content could be fitted together and the format that the display of information to users would take. These areas had to then be aligned with the work processes that covered how the various content areas would be updated and the management flows that would need to be in place to ensure that content had been approved for publication.

This area of work also set about defining in some detail the technology that would be used in the solution and attempted to 'size' the infrastructure components that would be incorporated. By this stage it had already been decided that IBM's technologies would provide many of the backbone components to be employed including Lotus Domino and Lotus Notes, WebSphere and DB2. However, there were still some decisions to be made concerning other components.

The Solution

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— Barry Bûgg, Client Services Director
KMPInternet Solutions

❖ Technology Overview

At the heart of the system sits a content management tool built utilising Lotus Domino and IBM WebSphere Application Server. Barry Bûgg, Client Services Director for KMPInternet Solutions, explained, “We use two servers, Domino and WebSphere. Domino is the corporate server, the place where the community information sits and the registration occurs. The key driver here is Domino’s easy content management. All the content of the site is entered by non-technical airport staff, a feat that Domino makes possible.”

“Domino takes the registration information and puts it in a name and address book, then pumps it into DB2. DB2 shares the stored information with both Domino and WebSphere Application Server. WebSphere is the transactional part of the site. The product information is updated in DB2 using XML forms and then WebSphere pulls up the appropriate information.”

Bûgg went on to explain how Domino assisted the development process. “Domino takes away many of those basic issues that you would normally have to worry about with a traditional development tool. It frees up as much as 25% of the actual project time to work on making the solutions better rather than sorting out the fundamentals. It’s really rapid application development.”

It should be noted that the site also uses two non-IBM technologies, Macromedia’s Generator and Gordano’s GL Communicator. Macromedia Generator allows the Content Management System (CMS) to offer structure management without the need for constant manual updating of the interactive navigation applet and its alternatives together with other graphic elements such as typographically styled text. Gordano GL Communicator is a powerful List Server that provides the facility for the airport to query customer profile records in IBM DB2 against a particular offer and send out automated, personalised e-mails to those who present a match.

❖ The Business Issues Addressed

Phase one of the new Web Site was designed to bring passengers to the airport. The first steps were to create the new ‘brand’ and publish key information to which travellers need access. As a consequence, the new Web presence initially supplied the travelling public with information regarding flight arrivals and departures, the layouts of the terminals and which airlines operated from each terminal along with news stories regarding airport activities and a section covering job vacancies. It is noteworthy that the site included a simple Question and Answer (Q&A) section that looked at the sort of issues that were most frequently

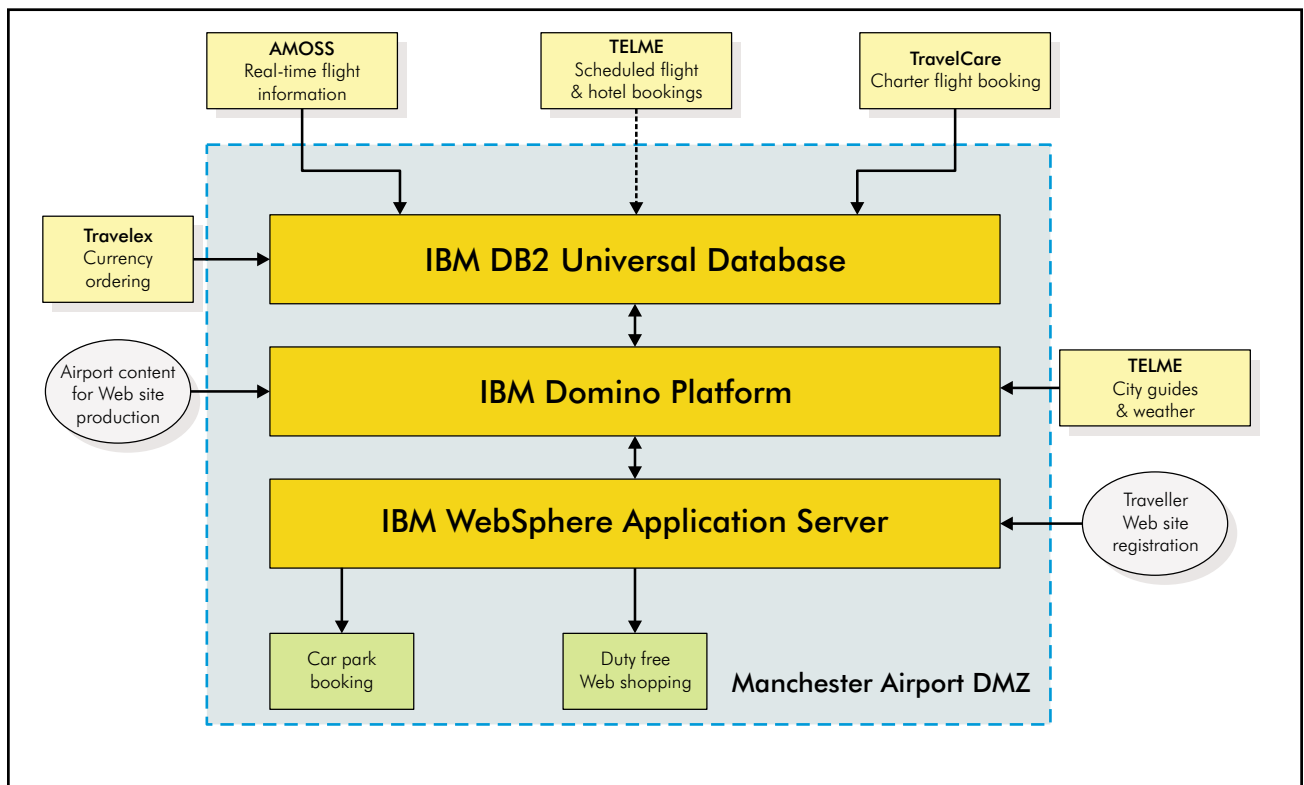
handled by the airport's passenger call centre. It is reported that the number of enquiries handled by the call centre dropped dramatically after the Q&A pages went live, saving considerable costs as the airport calculates that it costs approximately fifty pounds (around eighty Euro) to deal with each call.

The technical architecture of the initial phase solution can be seen in Figure 1.

The basis of the new Web site is built around a new Content Management System built by KMPInternet.com. The system utilises two clustered Lotus Domino servers, one holding the external facing content and a second staging server located inside the firewall that is accessed by users to update and publish the Web material. The internal staging server manages the entire approval and access control processes and replicates data to the external system for publication only after appropriate approvals and content checking have taken place.

A key philosophy that has driven the development of the systems has been to design components to be simple to reuse wherever possible. With this in mind the Content Management System has been designed around page templates, with three key page types being created. The first page type is used for information pages that simply contain text and images to be published, the second handles Navigation pages and contains text and Web links and the third type, a Facility page, covers pages using both text and so called update fields, such as opening times, logos etc. Two additional page types were

Figure 1: Simplified architecture of Manchester Airport technology



found to be necessary; one for HTML templates and an Image page for handling full-scale images.

These facilities are all built using the facilities supplied by Lotus Domino and make extensive use of the ‘parent and child’ hierarchy capabilities to build a tree site. It is worth noting that the Domino Rich Text Applet proved invaluable by allowing end users to create HTML pages without the need for them to be trained in HTML itself.

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“Lotus and IBM software levels the playing field,” says Barry Búgg. “We are a small shop, but we’ve been able to build Web sites that are competitive with the giants of technology. With Lotus application development tools, all it takes are ideas and a little creativity.”

❖ Phase One - The New Services

It is worthwhile noting that, at its core, the entire effort to build a Web presence can be reduced to two factors. The first covers presenting useful information to end users using the Internet as the communications medium and the second being focussed on making information and services available to these users. This second area has seen the airport and its partners in KMPInternet and IBM building a system that integrates with existing (Legacy) applications, internally within the airport and externally with its suppliers and partners.

Flight Arrivals and Departures

Phase One also included a live flight arrivals and departures feed to provide the same real time information on the Web site as that displayed in the lounges of the terminals. To achieve the linkage between the central AMOSS system and the Web site, the solution uses a C++ application to receive data from an XML feed available in the AMOSS Oracle database and insert the data into an IBM DB2 database at the airport. DB2 is then used to push into the Lotus Domino system from where it is fed into a Macromedia Flash interface and published onto the Web site in the familiar Flight Information Display format. The end result is that the Web site contains a display that appears to be exactly the same as a monitor at the airport and displays the same information, automatically refreshed on the Web screen every sixty seconds. (It is worthwhile noting that the C++ application was necessary in 2000 when the Web site was built; now the XML data can be passed directly to DB2.)

Scheduled Flight and Hotel Booking

Another facility supplied by the phase one project was the ability for passengers to book scheduled flights and hotel accommodations without having to leave the Manchester Airport Web site. As a practical step it was decided not to build a new system to supply this capability but rather to

Flight	Time	From	Status
NYT160	12:35	MANON	ARRIVED AT 14:57
ZB575	14:40	MALAGA	ARRIVED AT 14:39
B08744	14:50	FARO	EXPECTED AT 15:05
JMCS426	14:55	MITILINI-LESBOI	ARRIVED AT 14:19
502177	15:05	BRUSSELS	EXPECTED AT 15:05
LX380	15:05	ZURICH	EXPECTED AT 15:05
N1602	15:10	LISBON	EXPECTED AT 15:27
644904	15:15	DUBLIN	EXPECTED AT 15:02
SK1541	15:20	COPENHAGEN	CANCELLED
B03893	15:20	COPENHAGEN	CANCELLED
E1212	15:45	DUBLIN	
B95912	15:45	DUBLIN	
UK2031	16:00	AMSTERDAM	
NW4931	16:00	AMSTERDAM	

Figure 2: Macromedia Flash representation of Arrivals board mirrors actual boards in the airport

integrate with a service that was already available. In this case it was decided to use a successful online travel booking service supplied by telme.com using the Galileo worldwide flight-booking database. The Telme system employs a SQL Server database.

When using the flight and hotel booking service, all search processes take place on Telme's Web servers with the data being fed to the user through the airport's Domino system. Here the airport's own distinctive look and feel is added so that travellers are unaware that they are using a service supplied by another vendor. This works by using an HTTP Post operation to pass the session ID of the flight booking back to the airport Web site. The Domino servers then handle the login or registration process and once complete send the Telme session ID back to the Telme Web site so it can complete the flight booking process.

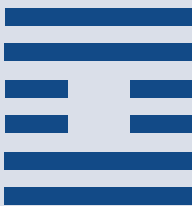
From the point of view of the customer this process is seamless and it also means that if the Web user decides to use another service on the airport Web presence they won't need to login again. Equally, by keeping the registration and login processes hosted on Lotus Domino the airport has only one key customer database, hosted on IBM DB2, to maintain. This is an excellent example of the external integration capabilities that Lotus Domino can provide to supply tangible business benefits.

Manchester Airport CRM

Underlying all of these systems is the airport's own customer relationship management technology. In order to use many of the services supplied on the site, users must first register online. The users' registered information is then utilised whenever a service is requested so that the airport effectively 'owns' the customer. So for instance, if a user wishes to use the flight booking service, the airport's own CRM system feeds information into the telme.com system, receives data back from telme.com and then passes this to the user as appropriate. The CRM system depends upon IBM DB2 to store customer details along with their site usage characteristics.

Once again, it is worthwhile noting that the Manchester Airport Web site does not comprise a number of Web services. In fact, in order to use the Manchester Airport Web presence to provide customers with a variety of services, including flight and holiday bookings, the site integrates with other Web servers and services that are hosted and managed by third party companies. In this way the airport has avoided the need to invest heavily in building systems to sell these products.

However, the airport wanted to leave the user unaware that they have moved to a service provided by third parties. To achieve this, work was carried out to ensure that customer and transactional data collected on third party Web sites



Bloor Perspective

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could be integrated automatically into the airport's own CRM system. Indeed, the airport's Web site is utilised as a front end to the external systems ensuring that the look and feel of any third party services accessed by customers closely matches that of the airport's own pages that are hosted on its Lotus Domino and WebSphere infrastructure.

To do this KMPInternet used a variety of methods supported by the IBM technologies to pull data from the third party vendors. The solution utilised depends on the facilities the third-party vendor had available in their systems.

Phase One went live in July 2001. It is the opinion of Bloor Research that the speed with which this phase of the project was completed is extremely noteworthy. The project went from user needs analysis through to a live system integrating internal and external systems within a few months. The creation of, from the perspective of a traveller, a single entity is a tribute to both the skills, experience and dedication of all project members and to the usability of the software technologies used to achieve this integration.

❖ Phase Two

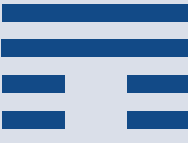
The second phase in the development of the project went live in July 2002 and was targeted to exploit the new 'Web Presence' and on-line brand that had been established. The objective was to bring real online trading to the site by giving passengers the ability to purchase goods and services from the airport itself and its partners.

Duty Free Purchases

The technology underpinning the new shopping/retail environment combines IBM WebSphere Commerce and Lotus Domino. This e-commerce section of the site, named the Travel Hub, brought several new offerings online including a service giving passengers using the Internet site the ability to pre-order duty and tax free goods online and then collect the items and pay for them at the 'Get it in 1' collection point in the departure lounge at the airport.

The tax and duty free shopping service uses IBM WebSphere Commerce and WebSphere Application Server components to provide registered customers with a shopping basket, takes their flight details and places the order with the airport shop. These products are easily integrated into the airport's core Lotus Domino infrastructure.

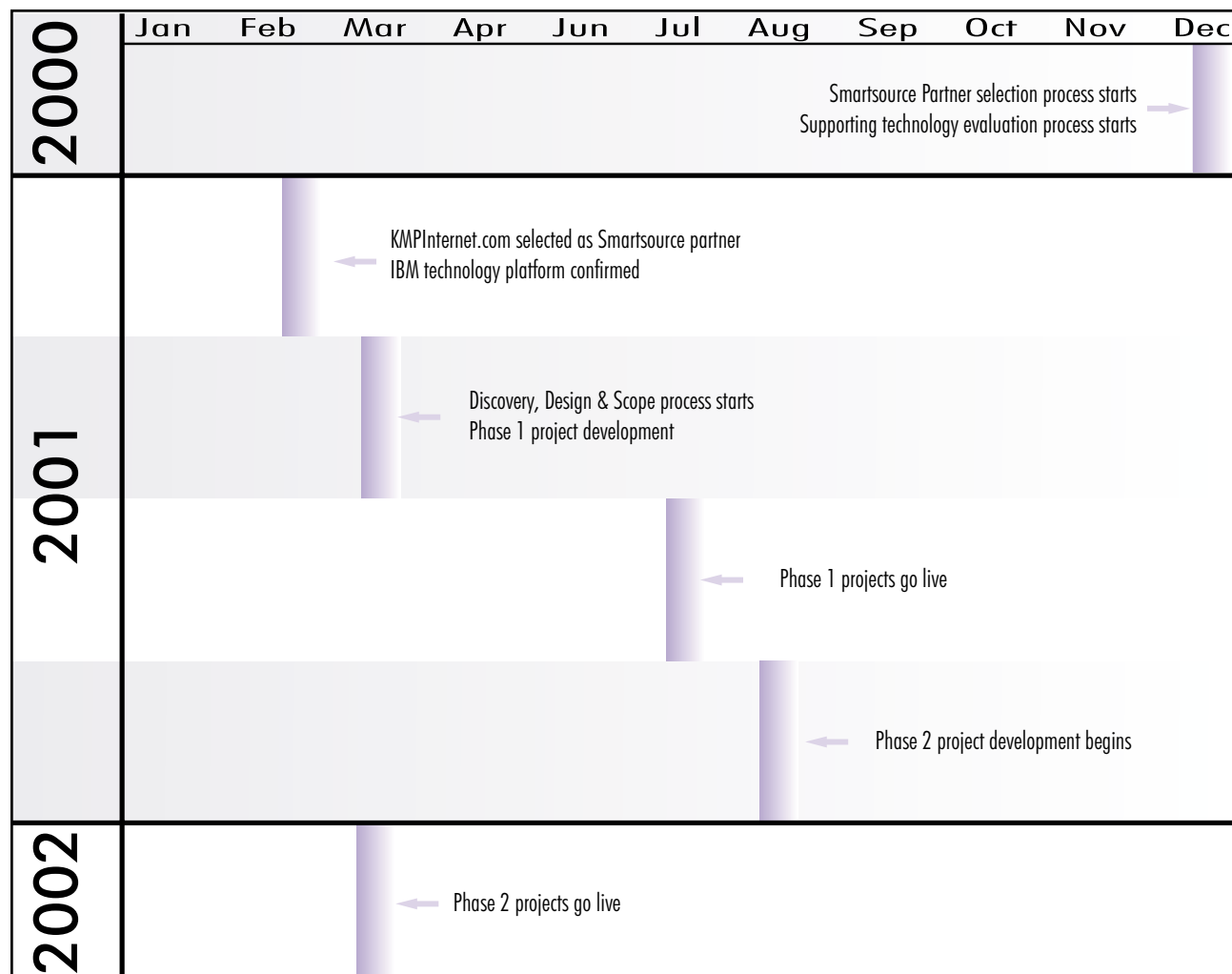
The built-in shopping basket functions within IBM WebSphere Commerce ensures that the building of the pre-order Duty Free shopping 'floor' was fast and straightforward. In addition, the airport is able to use many of the in-built MIS reports to keep track of customer buying habits in this area of the Web site.



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Bloor Perspective

Figure 3: Development Timeline



Online Car Park Booking

A second service created allowed customers to pre-order their airport car parking before travelling. To achieve this online, IBM's WebSphere JSP technology was employed to link with a number of custom-built Java classes to integrate with the airport's CRM system for car parking.

To enable the separation of code from the display of the Web site, XML and XSL style sheets were used in this area. As a result, any future changes to the layout of the car parking pages can be accomplished easily without the need to change either the JSP or underlying Java classes.

At the same time, as IBM WebSphere Commerce is being used for the e-commerce areas of the site, Lotus Domino is being employed to furnish the HTTP stack. As a result, the Domino name and address book is utilised to handle user registration and login. Consequently a single IBM DB2 server collects all of the CRM data on car parking and online shopping transactions.

In the case of airport car parking the airport estimates that it has increased its share of the revenues generated by the airport car parks by over a factor of ten whilst its customers have the confidence that their parking requirements are guaranteed.

The airport derives significant financial reward from the provision of these services. In the case of airport car parking the airport estimates that it has increased its share of the revenues generated by the airport car parks by over a factor of ten whilst its customers have the confidence that their parking requirements are guaranteed.

Online Charter Flight & Package Holiday Booking

Finally, Lotus Domino and IBM DB2 systems are used to store booking information created as a result of a package holiday and charter flight booking service, TravelCare, that is accessed through the Manchester Airport Web site. With TravelCare, the solution employs an HTTP 'pull' method. Here the airport Domino system uses its in-built Web Navigator task to pull XML data from a SSL and IP protected Web page on the third-party system.

A Lotus script scheduled agent polls the external Web page every 10 minutes and if new data is found it is read and imported into the airport's underlying DB2 database. In this way the airport ensures that it has access to useful CRM data on Web users who subscribe to updates on the TravelCare hosted section of the site. In addition, the Domino agent can automatically create a Web account for these users and send them an e-mail notifying them of this event. This e-mail can then be used to promote other services available on the Web site.

The same HTTP pull functionality is utilised to enable the Web site to integrate with data collected when customers use the holiday and flight booking service operated by the TravelCare call centre. Once again, the capability to pull customer data from TravelCare's CRM system ensures that the airport retains ownership of the e-mail sent to the customer thanking them for their business whilst adding the information to the underlying DB2 database for future MIS analysis.

Online Currency Exchange Booking

The airport's Web site now provides a facility for customers to pre-order their foreign currency online, saving them time at the airport and eliminating any chance of the airport exchange being unable to meet their requirements in the departure lounge.

Once again, the airport chose to offer this Web service by operating with a partner company, Travelex. This is a company focussed on supplying currency exchange facilities for travellers and operates in many countries at dozens of airports. In order to achieve this external integration, the method employed was slightly different to the others described earlier. As the systems used by Travelex did not have an XML feed available for integration the airport's systems instead receive a comma delimited data file on



No airport is an island. KMPInternet.com and Manchester Airport have built a comprehensive Web site by exploiting IBM's technologies to make complex services available to travellers in a simple to use package.

Bloor Perspective

customers who have purchased foreign currency every month. To facilitate the import of this data into the CRM data store, KMPInternet developed a data import facility with Lotus Domino. This enables airport staff to upload the CSV file supplied by Travelex via a Web-based interface. This information in the CSV file is then transferred to the appropriate underlying DB2 data tables in the CRM system.

Business Benefits



Figure 4: Airport staff with customers

“We feel that the enhanced footfall of passengers using the airport is, in part, a direct result of the familiarity with the airport that the Web site provides. We have seen passengers using the airport because they feel comfortable with Manchester Airport, not simply because they feel that they have to.”

— Peter Burgess

Of the many benefits that Manchester Airport has experienced from the creation of a very sophisticated Web site the majority have followed very much along the lines hoped for. However whilst the overall impact of the site has been as predicted, some benefits have greatly exceeded those expectations.

The initial aim of the project was to convert the airport’s existing basic Web site into a significant Web presence upon which a major online brand could be established. In this respect it is very clear that the core expectation has been exceeded by some considerable margin. A brief look at the Web statistics alone is enough to show that the site is now a major focus for potential passengers with the number of hits a day now running at around 400,000 to 500,000 compared to an average of only 70,000 in 1999.

At the same time, the dynamic nature of the site’s content supplies visitors with a real ‘feel’ for the airport, those people working at the airport and, very significantly, how the airport fits into the community is proving to have a significant impact in raising the airport’s position in the mind of local residents and businesses. This is a very important consideration in times when the ecological impact of all operations are increasingly subject to public scrutiny.

Burgess commented, “We feel that the enhanced footfall of passengers using the airport is, in part, a direct result of the familiarity with the airport that the Web site provides. We have seen passengers using the airport because they feel comfortable with Manchester Airport, not simply because they feel that they have to.”

The airport is now beginning to experience significant commercial benefits that the second phase of the Web site is having on its bottom line with electronic sales boosting income and profits. For example, a third-party company runs the airport car parking service, even though the lots are on airport property. Before the introduction of the online car parking booking service this meant that the airport received only about 5% of the revenue generated by the car park operation. Now, with significant numbers of customers booking their parking through the Web site, the airport receives almost 90% of the revenue. Clearly, Web business does have a significant positive impact on Manchester Airport’s bottom line.

Lessons Learned

The task of appraising knowledge and gems of insight accrued in the course of complex projects is not simple and can be highly subjective. This reflects the very nature of such endeavours, in as much that they depend far more upon people and processes than upon technology. It is therefore interesting to note that both the customer and the service provider highlighted the importance of exploiting the experience of people working at the airport as a basis upon which to build the new systems.

Peter Burgess, General Manager of IT at Manchester Airport, explained: “We deliberately set out with KMPInternet.com to develop the Web Site and services by working very closely with our real end users. We did not want to base the system on our IT interpretation of their requirements and the way they worked.” Barry Bûgg, Client Services Director for KMPInternet Solutions, made it clear that the core IBM technology employed in the project, namely Lotus Domino and IBM WebSphere Commerce, made the real adoption of this end-user focused philosophy a credible and practical approach.

It is illuminating to note that this customer focus extends to the definition of the service levels that are applied to the whole Web site and the related infrastructure. In essence the service level agreement runs along the lines of “maintaining the ability of the airport to ensure that cash flow remains unaffected and that the site is freely available to end users.” As Burgess stated, “Our entire relationship is based on operational terms, not those often used by developers.” KMPInternet.com and IBM together supply the 24x7 cover that ensures the airport’s Web presence is always available at the click of a mouse.

It is equally obvious that whilst the involvement of end users in the definition of the new service was vital there is an absolute requirement that the suppliers of the underlying technology tools and the design and build services operate in a partnership fashion rather than the more traditional customer-vendor model. The airport maintains a robust bond with KMPInternet.com and through them to IBM.

Burgess went further: “Looking back, we had some issues with the software that was employed. However, the fact that we had single supplier accountability with IBM’s technology meant that it was possible to resolve all issues as they came to light quickly and efficiently.”

It should be noted that the airport makes extensive use of the IT Infrastructure Library (ITIL) guidelines. The ITIL guidelines were originally developed for the British government and have today become almost a de facto global standard in the area of service management. ITIL now contains a raft of wide-ranging, publicly accessible documentation covering the planning, provision and support

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— Peter Burgess

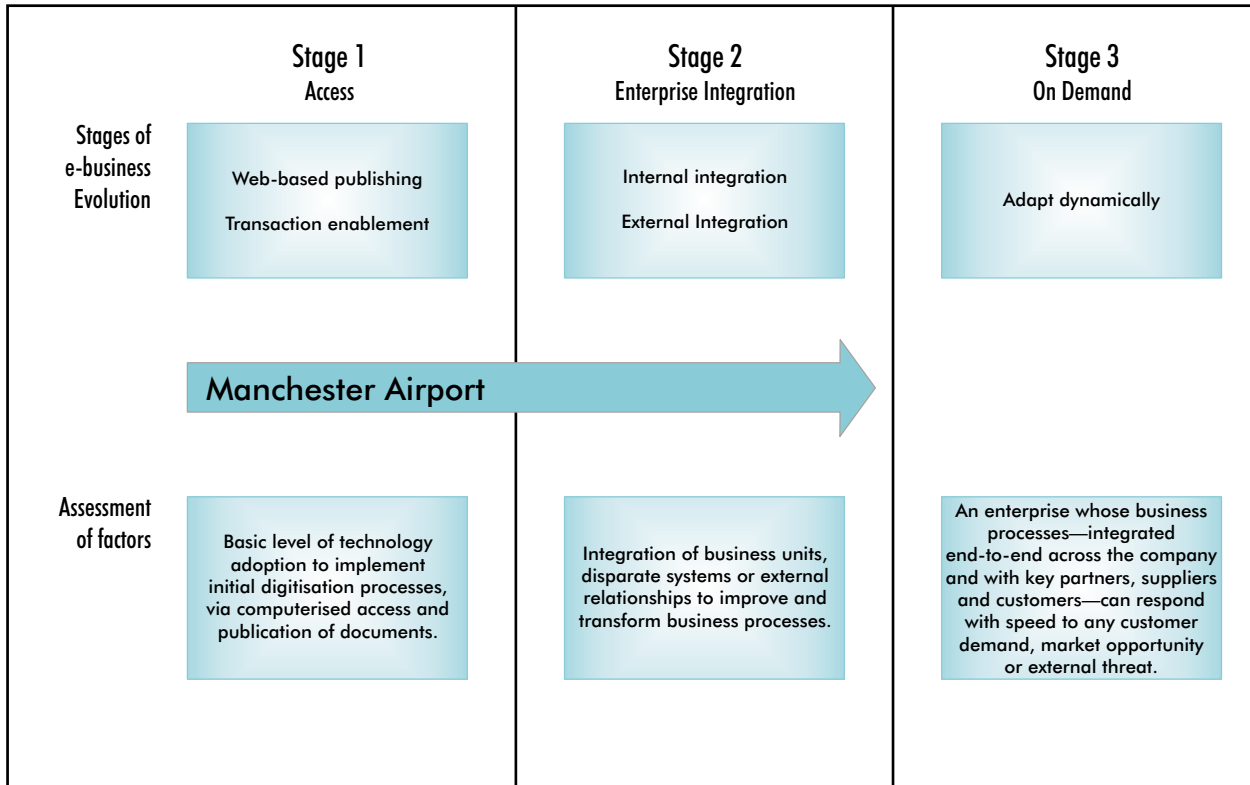
of IT services. Manchester Airport has adopted ITIL and now exploits solid ITIL-based procedures and processes at the heart of its entire service management philosophy, including the management of the new Web service.

❖ The Future

As a result of the governing authority’s concern to serve the community within which the airport sits the Web site now offers local citizens information on issues such as the airport’s environmental impact and, indeed, supplies guidance on the programs available to residents to deal with such issues, such as those for sound insulation for private homes etc..

As a living entity, Manchester Airport plans to continually evolve the Web site to offer its customers and partners an expanding range of online services. These services will be a combination of commercial services designed to increase airport usage and enhance its trading position along with those to ensure that the airport communicates effectively with both its customers and the local community within which it is located.

Figure 5: Manchester Airport’s place on the on the e-business evolution map




Summary

In Bloor Research's opinion the Manchesterairport.co.uk Web site is an excellent example of how imaginative use of the Web can enhance business at many levels. By combining a model of partnership the airport is managing to establish new income channels, both direct and indirect in nature, whilst at the same time significantly enhancing the image of the airport at a time when matters of conservation and the impact that industry has on the environment are matters of huge public concern.

The use of IBM's WebSphere and Domino technologies to build such an excellent Web presence, supply a number of online commercial services and achieve significant integration with external and internal IT systems is a compliment to the real world effectiveness of these products. The fact that the site has been developed within extremely short timescales and to a very high quality reflects well on IBM's tools and on the skills and business vision of both Manchester Airport and its Smartsource supplier, KMPInternet.com.

Bloor Research considers that the combination of business vision, service delivery and product effectiveness demonstrated in these projects indicates clearly how the Web can enhance both image and profits. Manchester Airport, KMPInternet and IBM deserve high praise.

Burgess reflected on the project, "By partnering with IBM and KMPInternet we have been able to build a site that delivers value to our customers, the local community and to ourselves."



Bloor Perspective The use of IBM's WebSphere and Domino technologies to build such an excellent Web presence, supply a number of online commercial services and achieve significant integration with external and internal IT systems is a compliment to the real world effectiveness of these products.

02-03

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