



e-business case studies

Starwood Hotels:

Raising the bar on customer service through e-business



Putting e-business to Work

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Starwood Hotels

The Company

- 700 hotels in 72 countries
- 40 million customers stay in Starwood hotels and resorts annually

The Web Site

- www.preferredguest.com

The Solution

- Web-based customer relationship management and customer self-service solution

The Benefits

- Solution achieved 100% payback in six months
- \$3 million reduction in the cost of communicating with Preferred Guest members
- Lower enrollment costs
- Higher consumption of hospitality services among Preferred Guest membership base
- Increased customer satisfaction

The Technology

- IBM MQSeries®
- Java (JHTML)
- IBM DB2®
- IBM CICS®
- IBM ES/9000®

Services

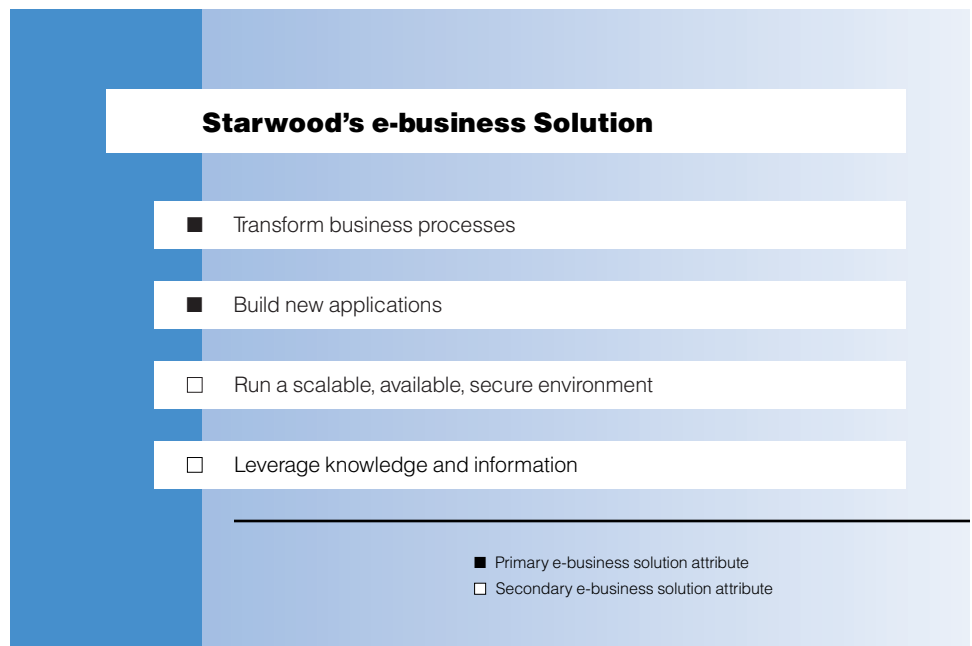
- IBM Global Services

Overview

e-business Case Study: Starwood Hotels

Starwood Hotels & Resorts Worldwide, Inc. is one of the world's largest hotel companies, whose brands include Sheraton, Westin, The Luxury Collection, St. Regis, W, Ciga, Four Points and Caesars. Starwood's portfolio of owned, managed and franchised hotels include approximately 700 hotels in 72 countries with roughly 215,000 rooms. Starwood employs 125,000 people worldwide and generated revenues of nearly \$5 billion in 1998.

This case study examines Starwood's use of Web technology to create a groundbreaking customer service platform designed to serve members of its Preferred Guest hotel rewards program. The Starwood Preferred Guest site embodies a major success story in the sheer sophistication of its back-end legacy integration as well as the truly innovative nature of its service offerings. By providing its members such advanced services as the ability to transfer reward points to airlines, pay for merchandise, and redeem for rooms, Starwood and IBM have truly raised the bar for Web-enabled customer service in the hospitality industry.

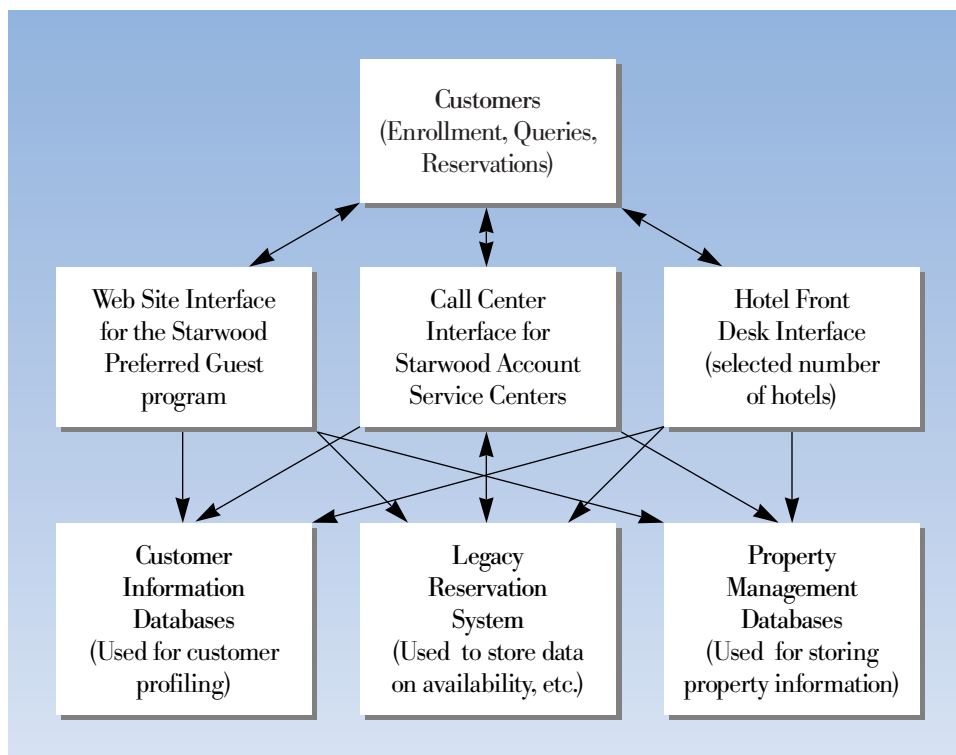


e-business Solution Profile

Starwood's e-business solution is a customer relationship management system designed to provide a Web front end to its Starwood Preferred Guest (SPG) program, a popular and well-rated hotel rewards program introduced in February, 1999. One of Starwood's key goals prior to the implementation was to harvest the vast reservoir of customer information buried in separate legacy databases, which included its customer information database, reservation system database, and a database storing property management information. In this respect, Starwood has clearly succeeded, since the SPG site provides Preferred Guest members with a single interface point for all of these legacy databases. What's more, these databases are also integrated with Starwood's call center operations as well as the front desks of a number of Starwood's hotels, thus enabling Starwood to fully leverage its underlying base of customer data.

The system provides SPG members with a number of advanced services, including the ability to check their balance of reward points – known as StarPoints – and to redeem those points online. The SPG site also provides members with a rich array of information, including the ability to view special lodging offers by geographic area, as well as information related to weather, hotels, and membership benefits.

The services and information delivered through the SPG Web site are enhanced by the system's ability to create and maintain profiles of SPG members. This enables Starwood to capture information on member preferences (e.g., smoking vs. non-smoking), and to tailor the information delivered to members according to their member preferences. Members have the ability to update their own profiles on the SPG site. Perhaps the most important capability of the SPG site is the ability to enroll new members. This enrollment capability reflects the central importance of customer expansion to Starwood's emerging Web strategies.



Source: Starwood Hotels & Resorts Worldwide, Inc.

Figure 1. Integration of Customer Interfaces in the Starwood e-business Solution

“There was only one key criterion for this project. We needed to have confidence that whichever vendor we chose could integrate the Web-based front end of the SPG system with Starwood's back-end systems in a rapid and cost-effective way. In short, we needed someone we could count on to deliver a powerful and reliable end-to-end solution.”

— Brian Pratt, Vice President of Interactive Marketing, Starwood

Featured IBM Technology

MQSeries

IBM's innovative, award winning MQSeries is the market leader in commercial messaging, providing a key element of enterprise systems and setting the standards against which messaging products are judged.
www.ibm.com/software/ts/mqseries

DB2

The DB2 Product Family offers open, industrial-strength database management for business intelligence, transaction processing, and a broad range of applications for all types of businesses.
www.ibm.com/software/data

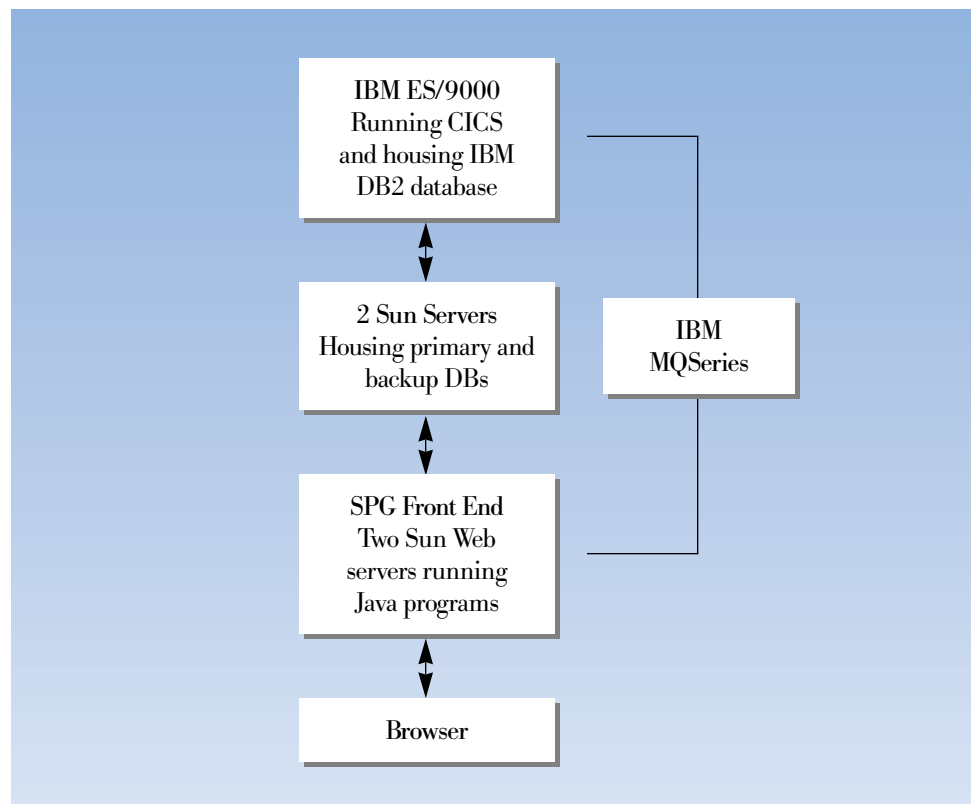
CICS

CICS is an application server that provides industrial-strength, online transaction management for mission-critical applications. Already proven in the market for over 30 years with many of the world's leading businesses, CICS today enables customers to modernize and extend their existing applications, efficiently create exciting new ones and so take advantage of the opportunities provided by e-business while fully leveraging their existing investments.
www.ibm.com/software/ts/cics

The SPG e-business solution was developed by IBM Global Services and members of Starwood's internal IT staff in less than four months. This short time frame belies the extreme complexity of the solution, which features a substantial amount of integration to legacy systems. The front end of the SPG solution was written in JHTML Java. The most critical software component of the solution is IBM's MQSeries, which provides linkages between Java programs on the front end and multiple DB2 back-end databases.

The hardware components of the SPG solution are arrayed in two tiers. The upper tier consists of four Sun servers located at Starwood's data center in Braintree, Massachusetts, which include two Web servers, one database server, and one staging server that also functions as a backup database server. The data foundation for the SPG solution is an IBM ES/9000 mainframe running CICS, which houses an IBM DB2 database containing all customer data, including reservation and booking information. MQSeries provides a seamless linkage between the Java front end, the server-based Oracle databases and the DB2 databases resident on the mainframe.

Under the data structure of the SPG solution, the server-level database holds both long-term data as well as transient data (data which is only resident in the database during a customer's online session). During a transaction, customer information – as well as data on room availability, room descriptions, and rates – is retrieved from Starwood's DB2 database via Java and MQSeries, and is stored temporarily in the server database. After a transaction (e.g., a room reservation) is completed, the transaction information is sent back to the DB2 databases on the mainframe. Information stored in the server database on a long-term basis includes descriptions of Starwood's 700 hotel and resort properties worldwide.



Source: Starwood Hotels & Resorts Worldwide, Inc.

Figure 2. Basic System Architecture of the Starwood Preferred Guest e-business Solution

Planning and Decision Environment



Starwood began planning its Web technology initiative in October, 1998, with the Starwood Interactive Marketing organization playing the key role in articulating the general specifications and driving the project overall. According to Brian Pratt, vice president of Interactive Marketing, his group saw that Web technology presented an opportunity to dramatically improve the effectiveness of Starwood's marketing communications. "We realized that the Web gave us new and better ways to market Starwood's frequency programs," says Pratt. "When we approached the people in charge of frequency-program marketing with our ideas, they got very excited about the possibilities." According to Pratt, the Interactive Marketing group's role in planning the SPG system reflects its position within Starwood at the intersection of technology and marketing. "We were most familiar with what the Web could and could not do," he adds, "and we had the clearest idea of what people within Starwood wanted to achieve."

Just weeks after conceiving its plan for a Web-based solution to serve its Preferred Guest members, Starwood opened a bidding process to select a vendor to design and implement it alongside its own IT personnel. "There was only one key criterion for this project," notes Pratt. "We needed to have confidence that whichever vendor we chose could integrate the Web-based front end of the SPG system with Starwood's back-end systems in a rapid and cost-effective way. In short, we needed someone we could count on to deliver a powerful and reliable end-to-end solution."

After a bidding process that lasted one month, Starwood selected IBM Global Services to build the solution. Pratt sees IBM's proven track record with Starwood as a key reason for its selection. "Prior to this project, Starwood had used a lot of hardware and software from IBM, and we were very comfortable with the way they worked with us on previous projects," says Pratt. "Ultimately, however, the decision to use IBM turned on their superior knowledge of the product that was going to be required to build the system: MQSeries. Given this, it was really a fairly easy decision. IBM's proven expertise in building complex solutions using MQSeries gave us the comfort level we needed."

Featured IBM Technology

ES/9000

The IBM ES/9000 is a general-purpose legacy mainframe. IBM offers a complete range of parallel enterprise servers that provide scalability, availability, security and a low total cost of computing. www.ibm.com/servers

IBM Global Services

IBM Global Services can provide you with people who understand technology and know how to best leverage it for any business situation. You can count on IBM Global Services to create and deliver solutions that will achieve real business results. IBM Global Services can help you capitalize on the power of e-business by helping determine where and how the Web can produce the most positive benefits for your business. www.ibm.com/services

Goals and Business Drivers

“By driving our new member enrollment and existing member communications to electronic media, we’ve been able to reduce our communications costs by approximately \$3 million. This communications cost savings is highly strategic for Starwood because it allows us to allocate more money to getting new customers.”

— Brian Pratt

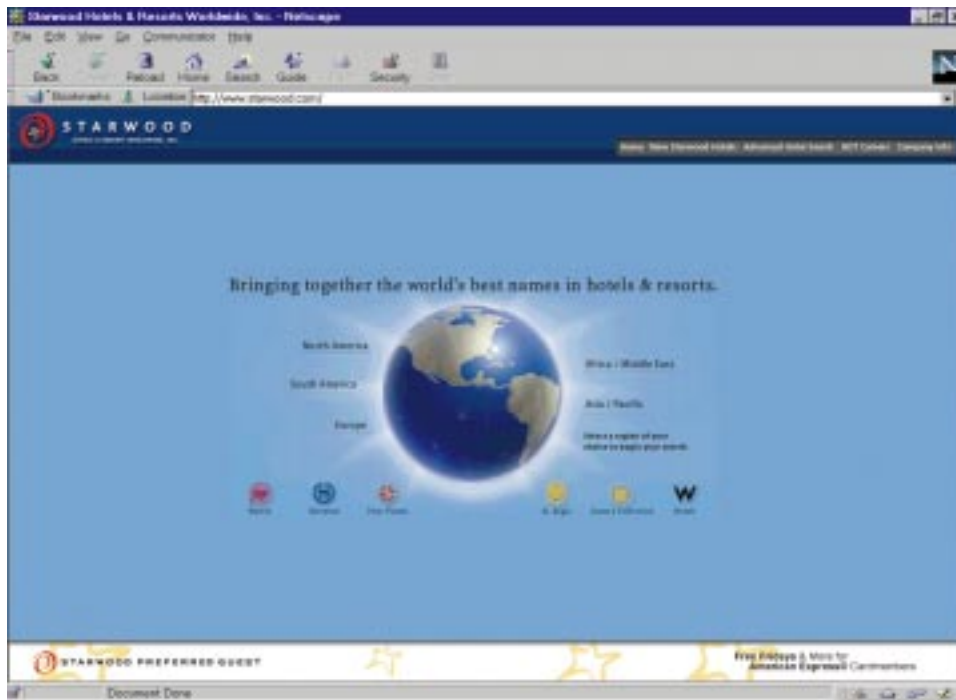
By developing a leading edge, Web-based customer service solution, Starwood sought to fundamentally change the way it communicates with current and prospective Preferred Guest members. “Our basic goal was to move from paper-based communications to electronic communications,” says Pratt. “By driving our new member enrollment and existing member communications to electronic media, we’ve been able to reduce our communications costs by approximately \$3 million. This communications cost savings is highly strategic for Starwood because it allows us to allocate more money to getting new customers.”

Prior to the deployment of the SPG site, Starwood promoted various destinations via costly direct mail campaigns, notes Pratt. “In the past, if we wanted to point travelers to Hawaii as a destination, we could easily have spent \$300,000 in postage alone on a direct-mail campaign. Using the SPG system as a communications medium, we can achieve the same result for \$3,000. The Web-based solution we created with IBM allows us to communicate with our customers in the way that they want to be communicated with – and in a way that is much more cost-effective for us.”

While Pratt sees Starwood’s aggressive adoption of Web technology as proactive, he acknowledges that the competitive climate within the hospitality industry has made technology initiatives a necessity. “One of our key drivers was the desire to use the Web to tap into a new base of Web-savvy customers before our competitors do,” he says. Moreover, Starwood’s research reinforces the notion that Web-based members are worth attracting. “We’ve traced our Web-based members through the SPG system and have found that they spend more money and travel more often. So while the Web cuts our costs of communication and new member enrollment, it also helps us to attract the most profitable travelers.”



Implementation Timetable and Strategy



The SPG site is a first-of-its-kind solution that was developed within an extremely tight time frame, reflecting Starwood's desire to bring its new program to market as quickly as possible. Under the plan articulated by Starwood, the new SPG platform would be formed by merging the functionality of two older frequency programs – the former Sheraton Club International and Westin Premier programs – and adding the ability to do rewards online. According to Jeannie Ericson, IBM Global Services project manager for SPG engagement, the project's apparent simplicity belied a highly challenging implementation. "On the surface this looked like a fairly straightforward set of tasks, just copying a Web site and adding graphics to it," she says. "But it turned out to be far more complex than that."

Starwood's e-business solution was constructed in three phases, with the entire project lasting just over three months. The goal of the first implementation phase, begun in November, 1998, was to deliver the customer service solution, which allowed members to enroll on the Web, check their StarPoint balances, and then redeem them. The second phase of the SPG deployment – begun in early February, 1999, upon completion of the first implementation phase – was designed to increase the functionality surrounding the core elements, largely through enhancements to user interfaces and the addition of customer profiling capability. The third phase of the implementation is an ongoing maintenance relationship under which IBM Global Services development and staging servers are linked to Starwood's Web site, thus allowing IBM Global Services to upgrade the site on a near-continuous basis.

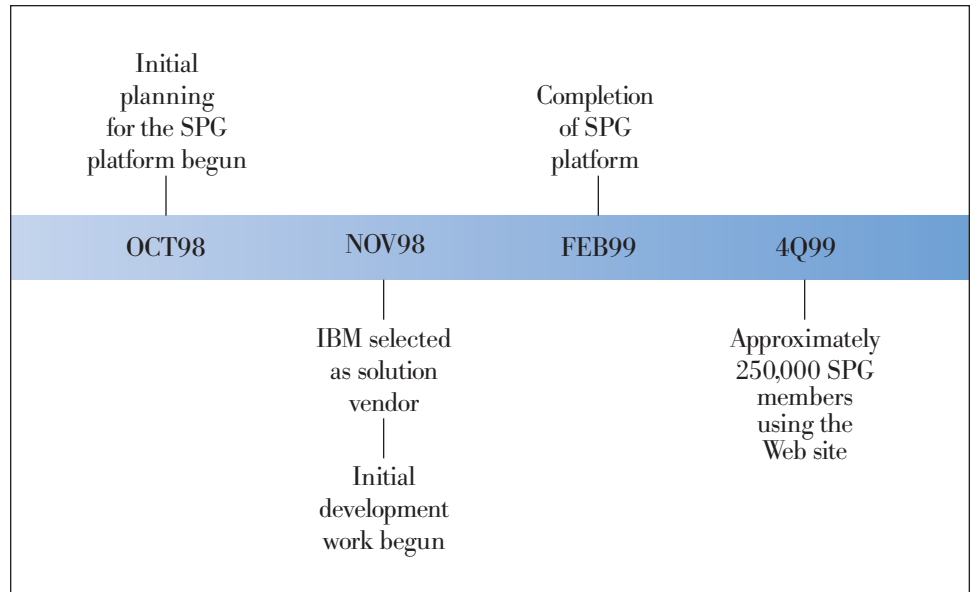
According to Ericson, the SPG project's main challenge was in getting the applications on the front end to communicate seamlessly with Starwood's back-end systems. This was compounded by the complexity of the transactions that were to be built into the platform. "This solution was really the first of its kind in the hospitality industry," says Ericson. "The transactions that Starwood wanted to do, like transferring member points to airlines, paying for merchandise with points, and redeeming points for rooms, were really brand new – nobody had done this kind of thing before."

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— Jeannie Ericson, IBM Global Services Project Manager, Starwood Engagement

“IBM’s solid understanding of how to construct an end-to-end solution like this, combined with an obvious knowledge of what’s going on in the back-end, made them uniquely qualified to put this complex solution together.”

— Brian Pratt



Source: Starwood Hotels & Resorts Worldwide, Inc.

Figure 3. Implementation Timetable for the Starwood e-business Solution

To create the framework for these cutting-edge transactions, the IBM/Starwood team outlined several different designs wherein they laid out exactly what each transaction would look like. “It was crucial to get this process right because of the extreme complexity of the coding needed to get the two systems to talk to each other,” notes Ericson. Furthermore, the back-end integration associated with SPG’s complex transactions had a direct impact on the development of the front-end Web environment. “Nearly all of the front-end work hinged on resolving the transaction complexity in the back-end,” says Ericson. “Most applications on the front-end could not be written until all the transactions were laid out and tested and working, since code is written off the values that come back from these transactions. If it isn’t exactly right, then we’d have to go back and change the code. It took about a month’s worth of 80-hour weeks by IBM Global Services people working alongside the Starwood back-end team, but we got it done on time.”

Starwood’s Pratt sees the success of the SPG implementation as evidence that his confidence in the MQSeries expertise of IBM Global Services was well-founded. “As expected, we relied heavily on IBM’s experience with MQSeries, as well as their knowledge of virtual private networking and Web hosting, which are also critical parts of the solution,” he says. During the first two phases of the engagement, the IBM Global Services team focused primarily on the Web development side of the solution, including the design of the user interface. While IBM Global Services also wrote processes that would initiate an MQSeries transaction during a member’s session, the actual MQSeries code (linking to back-end systems) was written by Starwood IT personnel under the guidance of IBM Global Services messaging experts. Pratt maintains that IBM’s expertise was a key ingredient in Starwood’s ability to overcome the barrier of integration complexity. “We were able to leverage IBM’s expertise in using MQSeries to perform complex Web integration. IBM’s solid understanding of how to construct an end-to-end solution like this, combined with an obvious knowledge of what’s going on in the back-end, made them uniquely qualified to put this complex solution together.”

Return on Investment

Starwood's Pratt views the SPG solution as a complete success. Indeed, since its introduction in February, 1999, nearly a quarter of its one million Preferred Guest members use the Web site to check on and redeem their StarPoints, as well as perform various other functions. Pratt also points to the rapid rise in Web-based enrollments as a testament to the success of the SPG solution. "Prior to deployment of the new SPG system, the Web was not even on our radar screen in terms of enrolling new members," he notes. "Today it is the second largest way of enrolling new members, behind our call centers. This puts us on a solid course toward lowering our enrollment costs going forward. We have already reduced our communications costs by over \$3 million." Based on these and other cost savings, Pratt estimates that the SPG system achieved a 100% payback within six months of its introduction.

Since introducing the new system, Starwood has also noted a significant positive change in the qualitative characteristics of its membership base. "We've already seen metrics that show a significant improvement in the quality of the new members that we're enrolling, as measured by their propensity to stay in one of our hotels or resorts," says Pratt. "Prior to deploying the new solution, our Web enrollees had performed in the lowest one-quarter of Starwood's membership base. Since the deployment of the new system, our Web enrollees are now performing in the top 50 percent. This shows that the SPG system has become a potent competitive and strategic marketing tool for us."

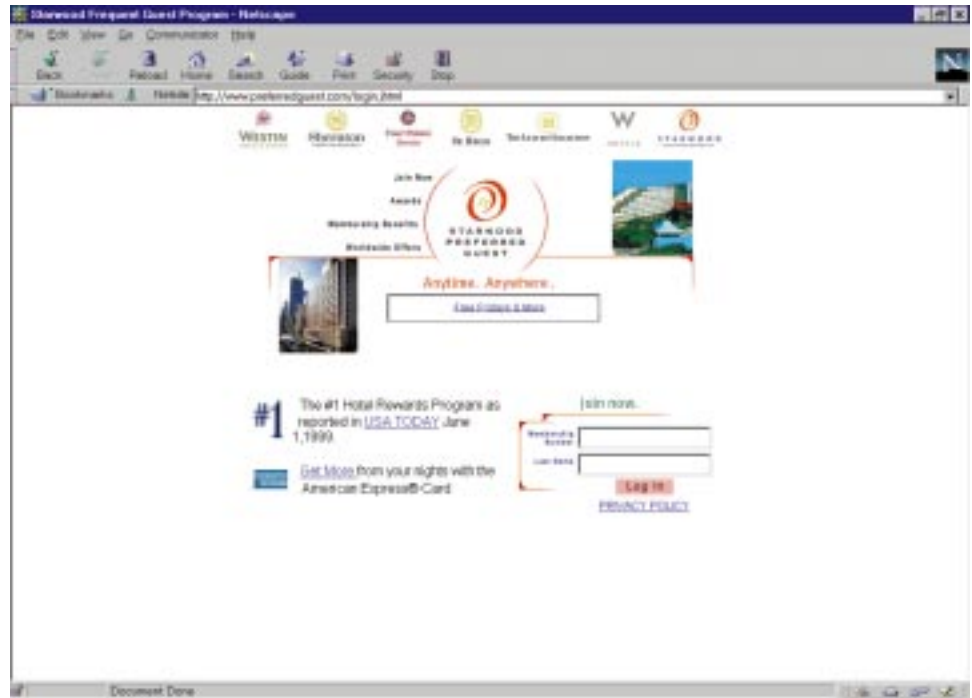
Overall Benefits	
Area	Benefit
Cost Savings	<ul style="list-style-type: none"> Generated 100% payback within six months of its introduction Lower costs for enrollment of new Preferred Guest members \$3 million reduction in ongoing communication costs Lower promotional campaign costs
Customer Base	<ul style="list-style-type: none"> Higher customer satisfaction Higher customer retention Increased consumption of hospitality services among Web-based members

Source: Starwood Hotels & Resorts Worldwide, Inc.

Figure 4. Benefits of the Starwood e-business Solution

"Prior to deployment of the new SPG system, the Web was not even on our radar screen in terms of enrolling new members. Today it is the second largest way of enrolling new members, behind our call centers. This puts us on a solid course toward lowering our enrollment costs going forward."

— Brian Pratt



While Starwood views the SPG platform as complimentary to its existing business processes, many of those processes have begun to subtly change to reflect the strengths of the new system. “Our Web-based systems are beginning to revolutionize the way we communicate with our customers – and that applies to communications to us *and* from us,” says Pratt. “It’s changing both the media through which we communicate, and the frequency of our communications with members. We see customer loyalty and satisfaction as one of the key criteria for long-term success in our business. By providing our customers with more control and flexibility in their ability to monitor and redeem their points, we think we will strengthen our bond with them.”

Implementation Issues/Lessons Learned

Despite an exceedingly tight deadline, IBM Global Services' Starwood engagement experienced no major difficulties. Among the challenges facing IBM, says Jeannie Ericson, was how to create a user interface for a system that had no comparable precedent. "The most challenging part of implementation was deciding what the user interface would look like, since it's not something that has ever been done before on the Web," says Ericson. "For example, redeeming for a free night actually represents about five different transactions within the SPG system. Our main challenge was to make it an easy and intuitive process for the user, regardless of the underlying complexity – and that's where we performed best. We had some incredibly creative people working on this, and I never had any doubts about our ability to meet this challenge."

Starwood's Pratt views his most important lesson learned as the need to plan up front. "The IBM/Starwood team delivered this solution very quickly, and were very fortunate to have delivered it with such success, given our tight deadlines," he says. Overall, Pratt attributes the success of the project under such time-constrained conditions to IBM's project management and collaborative problem-solving skills. "We had extremely good management on the IBM side, as well as excellent technical expertise on both the Starwood and IBM sides. IBM's biggest strength in this engagement was their ability to instill in us a sense that there was no technical problem that they could not handle. And they always were there to help our IT people resolve our technical issues."

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Future Plans

“It’s our goal to lead the industry on the Web, and we see this as a significant first step.”

— Brian Pratt

According to Pratt, Starwood’s Preferred Guest Web solution represents only the first phase in their effort to harvest their substantial legacy data investments to establish and maintain competitive advantage. “It’s our goal to lead the industry on the Web, and we see this as a significant first step,” says Pratt. What does the future hold? For now, Starwood intends to incrementally modify the SPG site’s user interface, as well as add enhancements to the platform, such as multiple language capability and the ability to allow customers to register for seasonal promotions. “Over the long term,” says Pratt, “our approach will be to add more and more functionality to our electronic infrastructure, with the goal of generating more and more revenue through the Web.”

Pratt sees the need to embrace Web technology as being in the highest tier of Starwood’s strategic priorities. “I believe that had we not invested in the SPG platform, Starwood would be like a person competing with one hand tied behind their back. A frequency program that is not tightly tied to the Web is only half a frequency program.”



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For information about
Starwood, visit:
www.starwood.com



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