

Case Study

TECHSYS consolidates disparate systems and increases ROI with new Operational System

Operational Support

TECHSYS delivered a solution that drastically improved the efficiency and effectiveness of scheduling and tracking resources and employees

Services featured

- Project Leadership
- Logical and Physical Database Design
- Business Analysis
- Requirements Gathering
- Application Design
- Application Development
- Testing
- Training and Mentoring
- Maintenance

Technology

- PowerBuilder
- PowerDesigner
- Sybase
- AIX

This company, a significant provider of transportation serving thousands of destinations with daily departures, saw the potential to maximize the return on investment (ROI) of its disparate systems by creation of a centralized operational application. TECHSYS helped this client to realize this vision. Today, the Operations unit of this company uses this system nationwide for scheduling and tracking the day to day operations of its fleet.

The business issue

This client is a major provider of transportation, serving more than 3,100 destinations with 16,000 daily departures across North America.

Traditionally, they relied on paper documents and phone conversations to track and schedule their fleet and operators throughout the United States and Canada. This process proved to be very cumbersome and inefficient, resulting in misinformation, delays, and coordination problems between locations. Several of the locations had their own isolated tracking systems, and some locations had no system at all. The existing systems did not interact with each other and could not be accessed globally by other independent subsidiaries.

What this client needed was a modern, efficient system for coordinating and tracking its resources across America – one that could control costs and insure rapid, reliable access to mission-critical information. So TECHSYS assisted in implementing an Operational Support system, which would help minimize the company's cost burden while maximizing the value to its customers. Due to successful and cost beneficial implementations of previous systems, the company looked no further than TECHSYS.

Our approach

The first step in providing for a successful solution was to perform analysis and assist the client in the requirements gathering for the system. This involved helping to capture and define the business requirements and analyze the current business processes associated with existing operations,

Operational Support

TECHSYS set out to define a clear, intuitive solution and create an efficient and easily manageable process while achieving an enhanced user experience, with less manual effort.

- Improved navigation and quality input
- Definition of user responsibility
- Creating a positive user environment

“Thanks to your hard work and dedication, we continue to see good sales growth, Keep up the good work.”

- COO

as well as new desired functionality. Logical and physical database designs were created as well as prototypes based on these requirements for review by the user community to ensure goals and guidelines were being met. Standards for development were created for all development teams to abide by. Using TECHSYS resources in conjunction with the client’s employees, the application was developed in a timely manner with emphasis on code reusability and ease of maintenance. TECHSYS expertise was transferred to the client’s employees throughout the project through formalized training classes and one-on-one mentoring.

The results

With the Operational Support system, employees no longer have to physically contact other locations for tracking or assigning of resources, and information can be analyzed on a global level. The system tracks and assigns inventory, both company and rental, to schedules, and maintains detail information and state requirements, including maintenance tracking. It also provides tracking and assigning of both company employees and part-time operators to schedules on a national basis. It allows users to locate operators anywhere in the nation, along with maintaining employee hours, DOT requirements, possible oversupply or shortfalls, and employment status. In addition, it keeps history of all assignments and employment statuses for future planning purposes. Information is immediately available and inventories are kept up to date.

Now, employees can access thorough, up-to-date operational information from any location, at any time. Beyond enhanced data availability; the solution provides greater visibility into operations and an arena for greater collaboration throughout the various company locations. Additionally, the application enabled the company to greatly simplify operations. Thanks to TECHSYS, what used to be a scheduling nightmare has become an efficient and easily manageable process.



Case Study

TECHSYS helps simplify effort and increase ROI with new Travel System.

Travel System

Services featured

- Business Analysis
- Product Evaluation
- GAP Analysis
- Database Design
- Application Design
- Application Development
- Testing
- Training and Mentoring

Technology

- Use Case
- J2EE
- EJB
- Websphere
- Websphere Commerce Suite
- JSP
- DB2
- Java
- Javascript

This transportation company, serving thousands of destinations with daily departures and additional partnership services with a number of independent transporters saw the potential to maximize the return on investment (ROI) of its package and sightseeing tours and gain efficiency by automating the process over the company intranet. In stepped TECHSYS, which helped to realize the vision of implementing a network of complementary services with the company's existing schedules and more. Today, the Travel Services unit offers charter and tour packages for businesses, conventions, schools and other groups at competitive rates.

The business issue

This client is a major provider of transportation, serving more than 3,100 destinations with 16,000 daily departures across North America. While the company itself had established package and sightseeing tours for many of its locations, several of the locations the company had purchased over the years had their own isolated booking systems, and some locations had no system at all. The existing systems did not interact with each other and could not be accessed globally by other independent subsidiaries. Over time, the company's package tour and sightseeing operation had become costly and cumbersome, requiring investigation and bookings by phone or by written correspondence.

What the client needed was a modern, efficient system for establishing the package and sightseeing tours – one that could control costs and insure rapid, reliable access to mission-critical information. So TECHSYS assisted in implementing an electronic Travel creation and booking system, which would help minimize the client's cost burden while maximizing the value of its Travel environment. Due to successful and cost beneficial implementations of previous systems, the company looked no further than TECHSYS.

Our approach

The first step in assisting the client in this endeavor was to perform analysis which would provide input to a buy versus build decision. This involved helping to capture and define the business requirements and analyze the

Travel System

TECHSYS delivered a solution that drastically improved the efficiency and effectiveness of defining and booking package and sightseeing tours. Today, the process has been automated and streamlined, and the capability of online bookings via the intranet is a daily reality

“The TECHSYS consultants are always very helpful in providing us what we need” Leader – IT Production Development Team

current business processes associated with existing operations as well as new desired functionality. Use Case diagrams and documents were developed during this stage. Also included in this stage were evaluations of best-of-breed eCommerce systems on the market to determine if any would fit the client's need. WebSphere Commerce Suite (WCS) was eventually chosen. WCS is a Java-based eCommerce application built on the J2EE architecture. We assisted in installation of WebSphere and WCS both at the server and client levels. Next, Gap analysis was performed to identify the extent to which WCS would need to be modified and extended to meet the company's requirements. Many enhancements and modifications were made to WCS, which entailed DB2 database design and development, changing and enhancing the presentation layer through modifications to JSP's, HTML, and JavaScript, extending the business rules by creating new and modifying existing EJB's, and creating test plans to verify the changes. TECHSYS expertise was transferred to the company's employees throughout the project through formalized training classes and one-on-one mentoring.

Now, employees only need a Web browser to access thorough, up-to-date package and sightseeing tour information from anywhere, at any time. Beyond enhanced data availability; the solution provides greater visibility into operations and an arena for greater collaboration throughout the various locations. Additionally, the application enabled the company to simplify operations.

The results

With the Travel System, employees no longer have to physically contact other locations to identify or book package and sightseeing tours. Rather, information is immediately available and inventories are kept up to date. Plus, the information is more content-rich as well, and is multi-cultural to handle several languages and payment in multiple currencies. For the first time, company executives and employees worldwide can participate in cross-location meetings with everyone looking at the same data or report. That success has fueled an expansion of scope as the company now works to distribute the application to all of its locations that handle tour related business.



Case Study

TECHSYS helps improve employee communications and processes with new employee portal

Employee Portal

Services featured

- Visioning
- Project Management
- Business Analysis
- Product Evaluation
- Database Design
- Application Design
- Hardware Design
- Network Design
- Application Development
- Testing
- Production Implementation
- Mentoring and Training

Technology

- Rational Rose
- Use Case
- J2EE
- Servlets
- EJB
- Websphere
- JSP
- Oracle
- Java

This innovative airline recognized the need for their frontline employees, pilots and flight attendants to gain dependable and ubiquitous access to communications and essential applications. TECHSYS provided the architectural vision; implementation skill set and project management to achieve this objective within an accelerated implementation timeline severely tested by the events of September 11th, 2001. Today, pilots and flight attendants enjoy dependable secured internet access to over ten different applications in addition to e-mail, departmental news, corporate news and operational news all available from a personalizable, easy to use employee portal. This same infrastructure has now been utilized to extend employee portal access to all employees within this company.

The business issue

This airline flies more than 90 million passengers a year to over 60 cities across the country, and they do it more than 3,000 times a day. While achieving this level of growth it has also proven its devotion to its employee experience exemplified by its frequent ranking as one of the top five "Best Companies to Work for in America".

True to its emphasis on employee experience, the client recognized early the need for pilots and flight attendants to access essential applications from home. This capability was provided through a private CompuServe network. Connectivity was slow and limited to a small number of concurrent connections. Access was achieved by loading client software on the accessing computer. A limited number of applications could be accessed and CompuServe charges were high for the service level provided. Problem resolutions required interfacing with CompuServe and the resulting level of satisfaction was not at the level desirable for Southwest.

What the airline needed was a solution that would provide 24/7 internet connectivity, faster access, higher reliability, in-house supportability, increased security and a broader range of offered services such as e-mail, personalized news content and application access. Due to TECHSYS' role in the successful and cost effective implementation of previous systems at the client, the company engaged TECHSYS in all aspects of the solution.

Employee Portal

TECHSYS provided a solution yielding faster, more secured and reliable access to essential applications for key employees whose jobs place them away from the office and home. Today the infrastructure associated with this solution has been extended to improve communications and application access for all employees.

“The Employee Portal system played a strategic role in our ability to communicate with the pilots and flight attendants during 9/11”

CEO

Our approach

The first step in assisting the airline was to identify the reasonable expectations and gain written acceptance from the representatives of the pilots and flight attendants. This involved helping to capture and define the business requirements and analyze the current business processes associated with existing operations as well as newly desired features. Use Case diagrams and documents were developed during this stage. Also included in this stage was the architecture and development of an infrastructure that would support the vision and the detailed requirements. A J2EE architecture approach was chosen with Websphere, Microsoft Citrix Services and Novell NIMS (web based e-mail) as the large scale building blocks to assist within this architecture. TECHSYS designed and implemented the infrastructure and connectivity for the Crew Portal based upon an extremely tight business designated timeline. This involved database design and development, presentation layer development including JSP's, HTML, and JavaScript, implementing the process flow and business rules by creating EJB's and Servlets, and creating test plans to verify the implementations. TECHSYS' expertise was transferred to Southwest Airlines employees throughout the project through formalized training classes and one-on-one mentoring.

Now, pilots and crew members only need a web browser to gain speedy and dependable access to essential applications, e-mail and personalized news.

The results

The staged implementation of the Employee Portal system was unexpectedly and severely tested during the week of September 11th, 2001. Scalability requirements had never envisioned that all pilots and crew members would be on the ground and needing system access during the same period of time. Due to the architecture proposed and implemented by TECHSYS, additional computers were quickly added to the cluster of web, application servers and Citrix servers providing the uninterrupted 24/7 uptime essential for communications during this timeframe. Today the architecture has been expanded to include an employee portal for all employees as well as the addition of countless applications.



Case Study

TECHSYS helps improve operations information sharing among airports

Scheduling System

Services featured

- Visioning
- Project Management
- Business Analysis
- Product Evaluation
- Database Design
- Application Design
- Hardware Design
- Application Development
- Testing
- Production Implementation
- Mentoring and Training

Technology

- HOW
- Use Case
- PowerBuilder
- SQL Server
- Replication

This innovative airline already had the fastest turn-around times for their airplanes as they arrived at the airport and departed with a full load of passengers, fuel and baggage, but they were using pen and paper for tracking purposes, and down line airports had little visibility as to what flights were coming their way. With improved visibility of their scheduled and non-scheduled flights, they could streamline operations at all points and realize tremendous gains in efficiency. Today, with the help of TECHSYS, this major airline has realized that vision.

The business issue

This airline flies more than 90 million passengers a year to over 60 cities across the country, and they do it more than 3,000 times a day. While achieving this level of growth it has also proven its devotion to its employee experience exemplified by its frequent ranking as one of the top five “Best Companies to Work for in America”.

This airline was using a paper based approach to handle the incoming and outgoing aircraft operations at each airport. They had a DOS-based entry system at each airport to record the flight information, and this information was transmitted back to the central office servers by Telnet. Down line airports would get the Dispatch Reports from the up line station via fax. Additionally, all weather and flight release reports were faxed to each station from the central dispatcher. As modifications to these reports became accessible, the information would have to be faxed again. This resulted in multiple copies of each report being delivered with some confusion at times as to which was the latest and most relevant report.

The airline needed a solution that would provide real time access to important changes in schedule information and eliminate the redundancy of the Dispatch reports, all provided with fast access and high reliability. The airline engaged TECHSYS in all aspects of the solution implementation due to TECHSYS’ role in the successful and cost effective implementation of previous systems.

Scheduling System

TECHSYS provided a solution that gave each airport a real-time view of the location of each airplane, with all its pertinent information like number of passengers on board, number of special needs passengers, loaded cargo and up-to-the-minute times of departures with improved ETA's.

Our approach

TECHSYS worked with the operations agents themselves to determine the best way to provide the necessary information to the right place in a timely manner. Also, we worked with the Dispatchers to understand how they collected pertinent information and how to get that crucial data out to the field.

We implemented a phased release of the software whereby information critical to the agents was provided before they were required to use the application. This generated interest and acceptance in the user community by allowing them to see the advantages of using the system before it became a part of their normal routine. This also generated a wealth of suggestions from the agents that would be using the application on a daily basis, which accomplished two things: 1) It allowed for features to be included that would greatly assist the user base and 2) increased acceptance and ownership as the users saw their suggestions being implemented in each release. TECHSYS designed and implemented the infrastructure for the system based upon an extremely tight business designated timeline. This involved database design and development, presentation layer development, application design and development and creating test plans to verify the implementations. TECHSYS' expertise was transferred to the airline's employees throughout the project through formalized training classes and one-on-one mentoring.

Now, this airline's employees have immediate access to daily arrivals and departures real time and online. No longer did the airline have to deal with paper-based information, which resulted in incredible advances in management and schedule planning.

The results

TECHSY successfully developed and implemented a complete and maintainable system that greatly streamlined the operations at each airport allowing for more efficient use of the operations agent's time as well as improved information to the coordinators for making decisions regarding gate assignments and holding planes for transfer passengers. The airline was able to accommodate additional passengers at several airports due to the ability of operations agents to handle more flights with additional data and reduce manual processes. And during 9/11, this system was instrumental in helping direct aircraft down quickly when the US airspace was shut down.

TECHSYS demonstrated once again the value they bring to developing and deploying mission critical applications needed by their clients.



Case Study

TECHSYS reduces check-in and boarding time for major airline

Scheduling System

Services featured

- Business Analysis
- Application Design
- Application Development
- Testing
- Production Implementation
- Mentoring and Training

Technology

- HOW
- Use Case
- Sequence Diagrams
- PowerBuilder
- Sabre SASS
- C++
- OCX

This major airline already had fast check-in times for their passengers, but desired to further increase its efficiency by implementing a system to check-in and receive boarding passes at the curbside drop off areas. TECHSYS expertise allowed that desire to come true.

The business issue

This airline flies more than 90 million passengers a year to over 60 cities across the country, and they do it more than 3,000 times a day. While achieving this level of growth it has also proven its devotion to its employee experience exemplified by its frequent ranking as one of the top five “Best Companies to Work for in America”.

This airline had baggage check-in agents positioned curb side at various airport locations. These agents assisted passengers with checking in baggage before they entered the terminal, to reduce the amount of time passengers would wait in line to receive tickets, thereby speeding up the check-in process. The airline realized these agents could provide additional benefits to passengers if they had the capability to issue boarding passes, provide flight information, and print baggage tags. The system they were currently using to gain flight information was cumbersome and too complicated to use, and did not provide the airlines with the depth of information that they were looking for.

The airline needed a solution that would provide real time access to flight information to better be of service to its customers, all provided with ease of use for its agents. The airline selected TECHSYS to implement the solution based on a proven track record with the client.

Our approach

TECHSYS interviewed the end users of the system to gain insight into their business requirements. Use Cases and Sequence Diagrams were used to capture and record the business requirements and provide a check point for validation that the system was meeting the desired expectations. A working prototype was developed to gain an understanding of graphical user interface

Scheduling System

TECHSYS Business Solutions – *Making Business Systems Work. Together*

requirements. Once the users agreed to the design, the initial system was developed and implemented in six weeks. TECHSYS was also brought in later to assist in the implementation and maintenance of several new features regarding the issuing of boarding passes, and providing flight information.

The system was implemented with a two-tier client server architecture. An interface was built using a C++ OCX which retrieved detail flight information from Sabre's SAAS system. Ease of use was provided by using a touch screen with simple lookup and display of flight information. Security information was also relayed to the agent in order to mark baggage for inspection and direct the passenger to secure inspection points. The system was designed to work with the airport's boarding pass and bag tag printers. Southwest Airlines employees were trained on the technology and system functionality throughout the project by TECHSYS employees.

The results

TECHSYS successfully developed and implemented a complete and maintainable system that allowed the airline's customers to gain valuable and time critical information curb side, while at the same time increased the operational efficiency of its baggage check-in agents. This allowed passengers more leeway regarding their check-in options, and greatly enhanced their total flight experience. Initially implemented as a temporary solution until the airline produced a modified check in system, it is still in production 6 years later with almost no downtime.

