

Application  
Development

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## Swiss: CAT – Contract Administration and Tracking System

Swiss began operations in 2001. The start-up airline derives a large share of its sales both from intermediaries such as travel agencies and from major clients, some of whom have their own in-house travel agencies. Unlike some other airlines, Swiss' emphasis in selling individual tickets is not only on direct sales channels but on the intermediate trade. After a brief period it became clear that a flexible and cost-effective application was needed to administer the complex system of contracts with intermediaries and major clients. In addition, Swiss wanted to extend the capacity of its in-house information technology and thus its independence from outside providers.

All variety of contracts govern the conditions - tariffs, refunds, contributions to marketing campaigns, access fees, etc. - between Swiss and its intermediaries and major clients. These contracts must take into account local aspects such as legal circumstances, national customs and varying market conditions. Routes that are generally less popular are offered at more attractive conditions.

Another factor influencing the conditions granted is the point of time when a flight is booked (at short notice or far in advance). The flight dates are also important. During high-volume periods such as Christmas, different conditions apply than during low-volume periods.

Typically, varying conditions are granted depending on previously negotiated targets such as sales thresholds, sales growth over the last contract period, etc. The contracts are therefore monitored throughout their term by a tracking process that measures the extent to which targets are met. The Key Account Manager can activate agreed refunds based on these evaluations. The analyses also serve as the basis for future contract negotiations. Although the contracts are adjusted for local market conditions, it's possible to create meaningful analyses from a global vantage point.

### Customer

Swiss International  
Air Lines

### Industry

Air transport/  
transportation

### Project

CAT – Contract Administration and  
Tracking System

### Topics

Oracle  
Custom Development

### Which challenge needed to be overcome?

The challenges of this project lay first in the complexity and diversity of the contracts, for despite the consideration of varying conditions in the individual markets, it was important to be able to track and analyze the contracts centrally. Another challenge was the severe time and budget constraints. Despite this difficult playing field, the quality could not be allowed to suffer. The system was to have a strongly modular structure and an architecture with a flat hierarchy to allow adjustments to the rapidly changing requirements to be implemented easily and at any time. This was the reason for integrating the business logic in PL/SQL into the Oracle database. Java/JSP was used to set up a presentation layer on the Oracle database. No middle tier was used.

### What was realized?

Development of the CAT user interface began in April 2002. In this Web application, marketing policies and competencies are regulated, contracts are recorded and new contracts are created using boilerplates. The system was already in productive operation in early November 2002.

The tracking system was added to productive operation by February 2003. It analyzes accounting data, i.e. tickets actually used, against the contract data. This results in Excel files being returned to the CAT user interface, where the Key Account Manager can access the appropriate information. Data analyzed by the tracking system also provides a basis for the analyses that are created in the data warehouse using Cognos. Here the focus is on data relating to indicators, earnings per ticket, market sales, performance of the sales organization, etc.

### Conclusion

The market conditions in air transport are in a constant state of change and difficult to predict. Swiss must therefore always be able to adjust its offers at short notice to new conditions. This in turn affects the contracts and the system

with which they are administered and their results analyzed. The modular structure of CAT allows the necessary system adjustments to be implemented with little outlay.

In developing this custom solution, Swiss was able to rely on the expertise of the specialists at Trivadis while also extending the capacity of its own in-house information technology. Due to the flat hierarchy of the system architecture, only a few different types of IT employees and teams are required. The dependency on outside companies was greatly reduced and the costs of contract administration and tracking were significantly lowered.

Some 3,000 new contracts are entered into annually with the help of CAT. Some 500 users (management, Key Account Managers and legal services) access this system from around the world.

### Software

Database: Oracle 9i/Release 2  
Apache Tomcat  
JAVA, JSP  
Visual Basic (for generating Excel sheets)  
Cognos Powerplay

### Hardware

Database server: HP (UNIX)  
Web server: HP (Linux)  
Clients: various (Windows NT, 2000, XP)