



CASE STUDY
GEOGRAPHICAL DISTRIBUTION
AND REAL-TIME ANALYTICS
LUFTHANSA

Using Real-Time
Information for
Flight Planning



Lufthansa

hvr-software.com

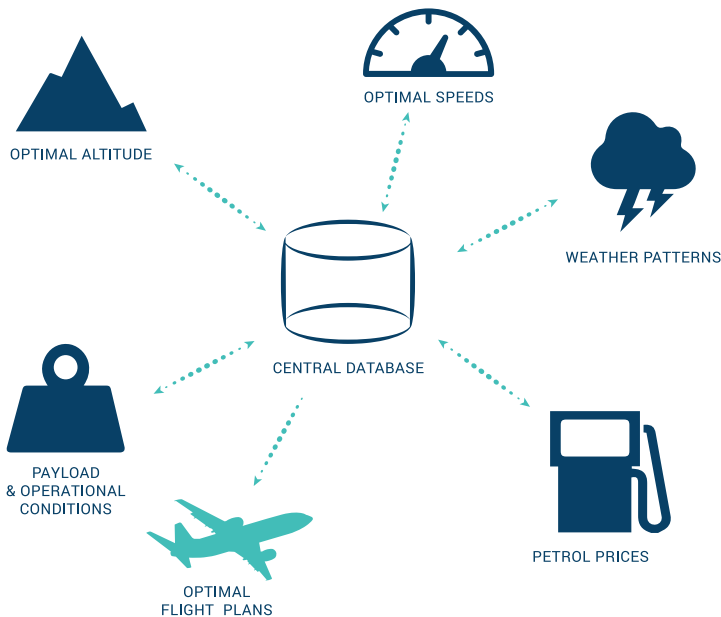
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Background

Lufthansa Systems, a division of Lufthansa Airlines, is one of the world's leading providers of IT services in the airline industry. It serves roughly 300 national and international airlines comprising more than one-third of all airlines worldwide. Among its many offerings, Lufthansa Systems offers Lido/FPLS (flight planning services), which determine the most effective flight routes in terms of cost, fuel and time. By optimizing flight routes, Lido/FPLS generates millions of dollars in extra profits for its customers each year.

HVR ensures that Lufthansa has the data it needs to create optimized flight plans, and that customers receive their plans in a timely manner.



Lufthansa Systems needed a solution that would allow the central repository to receive continuous updates from third-party data sources and from its airline customers.

CASE STUDY SNAPSHOT

Customer:
Lufthansa Systems
/LIDO Flight Planning

Challenge:
Data necessary for flight planning must be replicated to a central repository and then back to the airlines for real-time updates.

Solution:
HVR replicates bi-directionally between the central source to hundreds of different target databases at customer sites all over the world – even over restricted network links.

Benefits:

- Customer airlines gain local access to real-time flight planning data

- High performance, scalability and robustness

Databases:

- Ingres
- Oracle

Use Case:

- Geographical Distribution
- Real-Time Reporting

Challenge

Lido/FPLS helps airline dispatchers and pilots understand the best speeds to fly, at what heights, what take-off weights are permissible, what routes to take, what fees are due if they fly certain pathways and how much fuel they need to get from A to B.

Creating these optimized flight plans starts with massive amounts of data. Lufthansa Systems gathers up-to-date weather reports and air traffic data that impacts all airlines as well as critical information from the airlines themselves. Airline-specific data includes each flight's schedule, payload and operational conditions, as well as contracted prices for petrol. A large team of navigation experts then run all this data through proven algorithms to optimize a wide-range of variables associated with each flight.

Lido/FPLS is powered by a central data repository. Lufthansa Systems needed a solution that would allow this repository to receive continuous updates from third-party data sources and from its airline customers. It also needed to distribute optimized flight plans and other data of interest (such as new flight restrictions, airport closures, and severe turbulence) out to distributed data repositories at each customer's site.

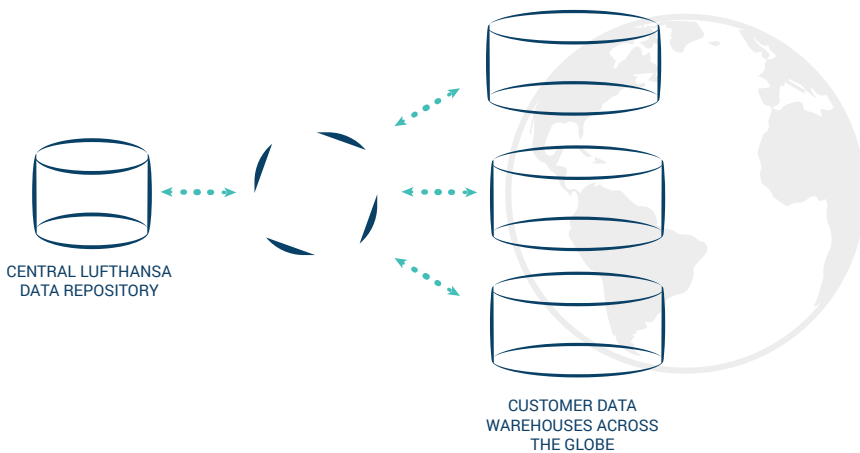


Solution

Lufthansa Systems uses HVR to provide bi-directional replication between its central data repository and hundreds of global customer data warehouses in a highly efficient manner. HVR's extreme data compression and pipelined architecture maximize throughput over slow, restricted network links.

Several of Lufthansa System's customers have also used HVR to create a hot-standby database for Lido/FPLS in their own data centers to ensure high availability and to create additional data warehouses for reporting.

Over the more than 15 years Lufthansa airlines has been using HVR, the product has successfully met changing requirements. For example, Lufthansa Systems originally relied on Ingres, but over time it has gradually migrated to Oracle. HVR has easily accommodated this change.



Result

Real-Time Data Keeps Plans Current

The HVR solution has proven to be a highly flexible, scalable, and robust way for Lufthansa Systems to ensure that its airline customers have the optimized flight plans they need, when they need them.

"We have been using HVR now more than fifteen years for our flight planning system business . . . with the combination of flexibility, performance and robustness, HVR has proven to be a very good choice to embed in our flight planning system."

Senior Database Software Architect
Lufthansa Systems Airlines
Operations Solutions Division
Frankfurt-Raunheim, Germany

Benefit

Customer Airlines Gain Local Access To Real-Time Flight Planning Data

High Performance, Scalability And Robustness