



Case Study

REAL TIME ANALYTICS

U.S. Coast Guard

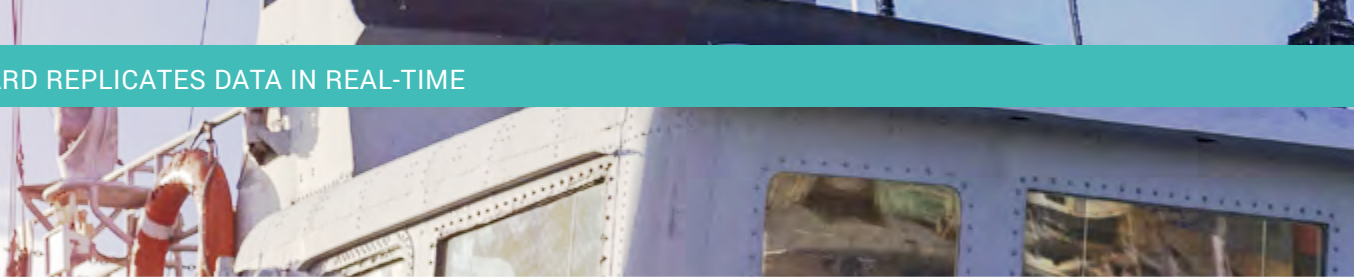
U.S. Coast Guard
Replicates Data In Real-Time
for High Availability



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Background

The United States Coast Guard (USCG) is one of the country's five armed services. In times of peace, USCG operates as part of the Department of Homeland Security, serving as the nation's front-line agency for enforcing laws at sea, protecting the coastline and ports, and saving lives. When the nation is at war or on direction of the President, USCG serves under the Navy Department.

USCG uses HVR to replicate data in real-time from the production system it uses to maintain its fleet of aircraft to a second database for use in reporting.

CASE STUDY SNAPSHOT

- Customer:** U.S. Coast Guard
- Challenge:**
 - Minimize impact of reports running against the production system while enabling real-time analytics
 - Needed a real-time replication technology to keep reporting and production systems in-sync
- Solution:** HVR enables USCG to minimize the impact of reporting with HVR's log-based CDC technology. Efficient processing and effective compression mean that data transfer across data centers does not introduce latency.
- Benefits:**
 - Distributed workloads
 - High Availability of Data
 - Latency reduction
- Database:**
 - Oracle
 - Ingres
- Use Case:**
 - Database Replication
 - Real-time Analytics
 - High Availability



ARSC
Aircraft Repair
and Supply Center



ALMIS
Aviation Logistics and
Maintenance Information System



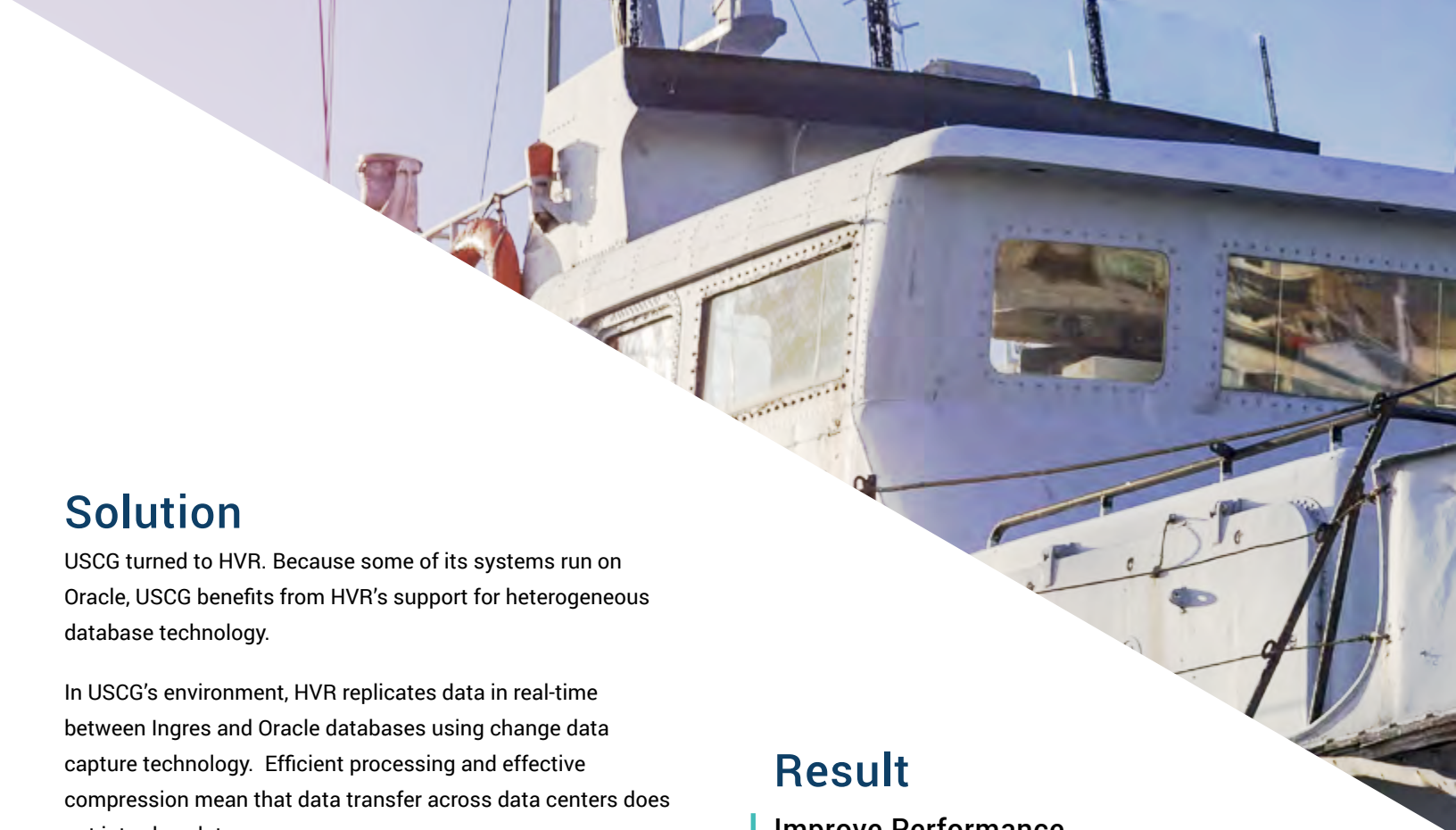
Challenge

Although USCG's operations are based at sea, it relies on aircraft ranging from helicopters to jets for search and rescue operations, law enforcement, environment response and air interdiction.

The responsibility for staying on top of aircraft maintenance falls to the USCG's Aircraft Repair and Supply Center (ARSC).

The ARSC relies on its homegrown Aviation Logistics and Maintenance Information System (ALMIS) to effectively plan and deploy the parts and materials necessary to maintain its aircraft and maximize their availability. ALMIS is built on top of an Ingres database.

The ALMIS system worked so well that it became a victim of its own success. When users started running reports and analyses to plan maintenance schedules, they caused system performance to suffer. USCG decided to implement a separate database, identical to the ALMIS production database, to offload reporting. SCG needed real-time replication technology to keep the systems in sync.



Solution

USCG turned to HVR. Because some of its systems run on Oracle, USCG benefits from HVR's support for heterogeneous database technology.

In USCG's environment, HVR replicates data in real-time between Ingres and Oracle databases using change data capture technology. Efficient processing and effective compression mean that data transfer across data centers does not introduce latency.

Since the initial implementation, the ARSC has extended its use of HVR to replicate to a hot standby system in a remote data center to deliver high availability.

Result

Improve Performance And Availability

By using HVR, USCG has been able to distribute workloads. This minimizes the impact of reports running against the production system while enabling real-time reporting. Because HVR replicates to a standby database, USCG can minimize the maintenance window and is able to avoid loss of data or loss of access to data in the event of an outage or natural disaster.

