



# Case Study

## REAL-TIME REPLICATION

### Nigerian Federal Inland Revenue Service

Real-Time Data Replication for  
Nigeria's Geographically Distributed  
Tax Administration System



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## Background

Founded in 1943, the Nigerian Federal Inland Revenue Service (FIRS) is responsible for assessing, collecting and accounting for the various taxes owed to the Nigerian government. With its population of 162 million people, Nigeria is divided into 37 separate tax districts, spread over almost one million square kilometers and has around 800,000 registered taxpayers. For a Revenue Collection agency like FIRS, quality service delivery and accurate tax information is critical to success.

HVR enables FIRS to keep taxpayer data up to date and synchronized across its widely distributed tax districts, each running their own database.



Large Geographical Distances



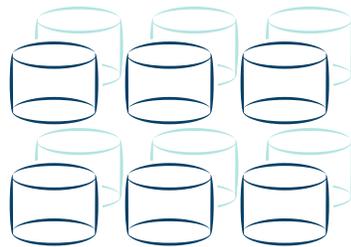
Limited WAN Infrastructure



Frequent Power Outages



**37**  
Tax Districts



**39**  
Oracle Databases

## CASE STUDY SNAPSHOT

- Customer:** Nigerian Federal Inland Revenue Service
- Challenge:** Real-time data replication across 37 distributed tax regions
- HVR provides extremely efficient data transport over Nigeria's restricted WAN
- Solution:**
- The HVR central management console enables FIRS to streamline the dataflow across their entire tax administration system
  - Real-time geographical distributed data replication
- Benefits:**
- Single point of control
  - Flexibility, scalability and robustness
- Database:**
- Oracle
- Use Case:**
- Distributed replication

## Challenge

Nigeria's tax administration system – Standard Integrated Government Tax Administration System (SIGTAS) – is an integrated information system that automates the administration of taxes and licenses. Built by CRC Sogema in Canada, this software is designed to meet the needs of developing countries that wish to increase their control over state revenues.

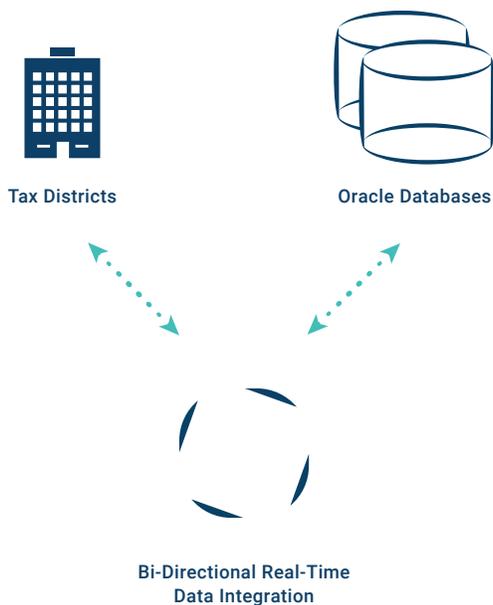
It is critical that FIRS keep information about taxpayers up-to-date and synchronized across all of Nigeria. Normally, one central tax database would be sufficient. But Nigeria's large geographical distances and limited WAN infrastructure mean distributed databases are required. On top of that, FIRS must deal with frequent power outages and slow, sometimes inaccessible wide area networks (WANs) connecting the different tax districts.

To address these demands, FIRS installed a local SIGTAS database in each tax district. However, it needed to reflect changes of information in one tax district to the other districts in real-time to ensure a consistent and reliable tax system.

## Solution

Nigeria's SIGTAS infrastructure consists of 39 Oracle databases spread over 37 tax districts. HVR's bi-directional real-time data integration with collision resolution allows tax information to be shared instantly among all of Nigeria's tax districts.

HVR was also used to set up a hot-standby database as part of the tax administration's High Availability strategy. Because HVR's management console delivers a single point of control, it streamlines the dataflow across all of the databases and tax districts managed by the SIGTAS system.



## Result

### High Resilience Efficient Data Transmission

HVR is very resilient to connectivity and database availability issues. When power outages occur or network connections are temporarily broken, HVR simply picks up replication where it left off as soon as service is restored and systems become accessible.

In addition, HVR provides extremely efficient data transport over Nigeria's restricted WAN. The built-in compression and limited use of network round-trips makes HVR an ideal solution for FIRS' geographical replication needs. Nigeria takes advantage of HVR's hub and spoke architecture option to ensure that the environment is easy to manage and maintain.

