

FUJITSU CONFIDENTIAL – COMMERCIAL IN CONFIDENCE
02 December 2021 – Steve Browell**Inconsistent data in IRE11 and IRE19 Audit Archives****Problem Statement:**

Copies of Post Office counter transactions gathered prior to HNG-X, which are now stored in the Audit Archives in both IRE11 and IRE19, are not consistent across both data centre Audit Archive servers.

Impact Summary:

Holistically no data is missing. Both data centres held full copies of all live transactions performed at the time as per the solution design. A Harvester process would copy the live transaction data to the Audit Archive. There was a Harvester in each data centre, each operating independently against its local database containing all transactions. There were therefore 2 Audit Archives – one in each data centre. There were occasional faults in the Harvester process at a specific data centre which resulted, in some instances, in transaction data not being copied to the Audit Archive server at the specific data centre. There is no recorded instance of both Harvesters failing at the same time. Therefore, although data may be missing from one Audit Archive server, it will be present on the other Audit Archive in the other data centre (and the ARQ process checks for this when retrieval requests are processed).

HNG-X transaction files are written to the Audit Archive in a different way and are not affected by this historical process.

Supporting Background Information:**Audit Gathering Method in Horizon prior to HNG-X**

- Prior to HNG-X, the Horizon solution used Riposte to gather transactions from all the Post Office counters
- Riposte was a distributed database deployed in the Bootle & Wigan data centres and on the Post Office counters
- By design, some FADs used Bootle as their primary data centre, and others used Wigan. Some used both
- By design, the data centres would replicate their data so that an exact copy of counter transactions was held in both locations
- Each evening the Riposte databases in each data centre were copied to the local Audit Archive - this was done by the local Harvester
- The Harvesters at each data centre operated independently
- There were occasions when the Harvester in one data centre would exhibit faults which would interrupt the process of copying the transaction data to the Audit Archive resulting in some data not being copied to the Audit Archive
- There is no recorded instance of both Harvesters failing at the same time
- Although data may be missing from one Audit Archive server, it will be present on the other Audit Archive in the other data centre (and the ARQ process checks for this when retrieval requests are processed)

Audit Gathering Method for HNG-X from 2010 onwards

- HNG-X was deployed in 2010 using a different solution for transaction logging and archiving
- The data centres were moved to IRE11 and IRE19 too
- In HNG-X, all transaction and non-transaction files are gathered in IRE11 and harvested to the IRE11 Audit Archive only
- Live data is automatically mirrored to IRE19 – including to the IRE19 Audit Archive
- Under HNG-X, all audit files (transaction and non-transaction) are consistent across both Audit Archive servers

Impact on ARQ requests

- Each Horizon or HNGx transaction has a unique number associated with it. The retrieval process checks that the transactions have not been tampered with and that there are no duplicates or gaps in the sequence of transactions
- ARQ queries are run against one of the Audit Archives. In the unlikely event that the results show any gaps, the query is run against the other Audit Archive to add the missing data and provide a holistic response to the requestor
- There have been no reported instances of gaps in ARQ retrievals once a query has been executed against both Audit Archives