Horizon Issues Remediation Programme – HIJ Progress Summary

IDG – December 2023

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HIJ – Progress Phase 3 Close

Summary of approach to the Horizon Issues Remediation Programme

OUR VISION: To improve the **Horizon user experience** and **Postmaster service**, by re-establishing a level of **trust and confidence in Horizon** – specifically with regards to platform security, data integrity and supplier management.

What are the inputs?

Formal evaluations by POL auditing partner (KPMG & Norton Rose) to assess proposed actions & outcomes to remediate against HIJ findings:

Internal Audit review of Horizon Remediation objectives & progress to remediate HIJs

Deloitte Horizon Security Audit to assess robustness of Remote & Privileged Horizon Accounts

Where are we now?

Horizon Issues Remediation Programme mobilised to remediate against 15 HIJs. Phases 0 – 2, Phase 3 largely now complete

Horizon improvements live across network supported by more consistent ways of working to embed sustained Horizon Change.

Postmaster IT Working Group actively involved in Horizon Change with positive feedback helping rebuild trust and confidence.

What's next?

Deliver approved Horizon Remediation work packages for Auto Stock Rem In & ARQ Audit SAN

Horizon System Improvements; Scope Options being reviewed

What does HSI look like? - £1M
What does HSI look like? - £2M
What does HSI look like? - £3M

4

Assumption: Resource to be either as required and not dedicated/fulltime contractors

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HIJ Finding Theme(s): Bugs Errors Defects & Robustness	HIJ Findings 1-3	Remediation Status: Activities Complete and sustained in BAU

1. Overview of Theme	2. Key Activities/Deliverables

1. Overview of Theme

Bugs, errors or defects had the potential to, and did cause apparent or alleged discrepancies or shortfalls relating to Sub postmasters' branch accounts or transactions.

Bugs, errors or defects therefore undermined the reliability of Horizon to accurately process and to record transactions.

The extent to which any IT system can automatically alert its users to bugs within the system itself is necessarily limited, and although Horizon has automated checks which would detect certain bugs, there are types of bugs which would not be detected by such checks. Indeed, the evidence showed that some bugs lay undiscovered in the Horizon system for years

HNG-X, the first iteration of Horizon Online, was slightly more robust than Legacy Horizon, but still had a significant number of bugs, errors and defects. The experts are agreed that HNG-A is robust, and far better than it was in either its Legacy Horizon or HNG-X form.

2. Key Activities/Deliverables

Established robust governance to proactively track and resolve Horizon Defects – led and owned by Post Office

Historical Defects
Closed backlog of historical defects KELs (Known Error Defects)

Defect Tracking
Defects logged and tracked in Service Now until resolution

Defect Review Forum
Bi-weekly session run by POL with Suppliers and stakeholders to monitor defects status

Defect Criticality
POL stakeholders assess defect impact to prioritise urgency for resolution

Defect Comms
Issue Branch Hub & Knowledge Article within 2 day SLA once defect raised

Embedded robust and formal identification & categorisation of Horizon defects – led and owned by Post Office

Defect Definitions
Consistently identify system defects by severity and business impact

Defect Triage
Bi-weekly meeting led by POL with Fujitsu to discuss all system defects by severity

Defect Thresholds
Common set of limits on accepted defect volumes at each stage of testing process

Defect Tooling
Jira software tool used across POL to capture defects during testing

Horizon Monitoring Solution gives independent view of Horizon health

AppDynamics
Completed pilot on 107 counters and 20 Horizon servers

AppDynamics
Rolled out solution to 4836 counters following pilot

Improved Solution Governance & change management reduce the risk of new BEDS

Horizon Solution Authority
Agrees Horizon change with focus on Postmaster impact

Reference Data Management
Enhanced processes & controls for managing reference data

3. Remaining Deliverables

Ongoing/continuous improvement based on reporting & controls attestation

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Supporting numbers

Defect Management:
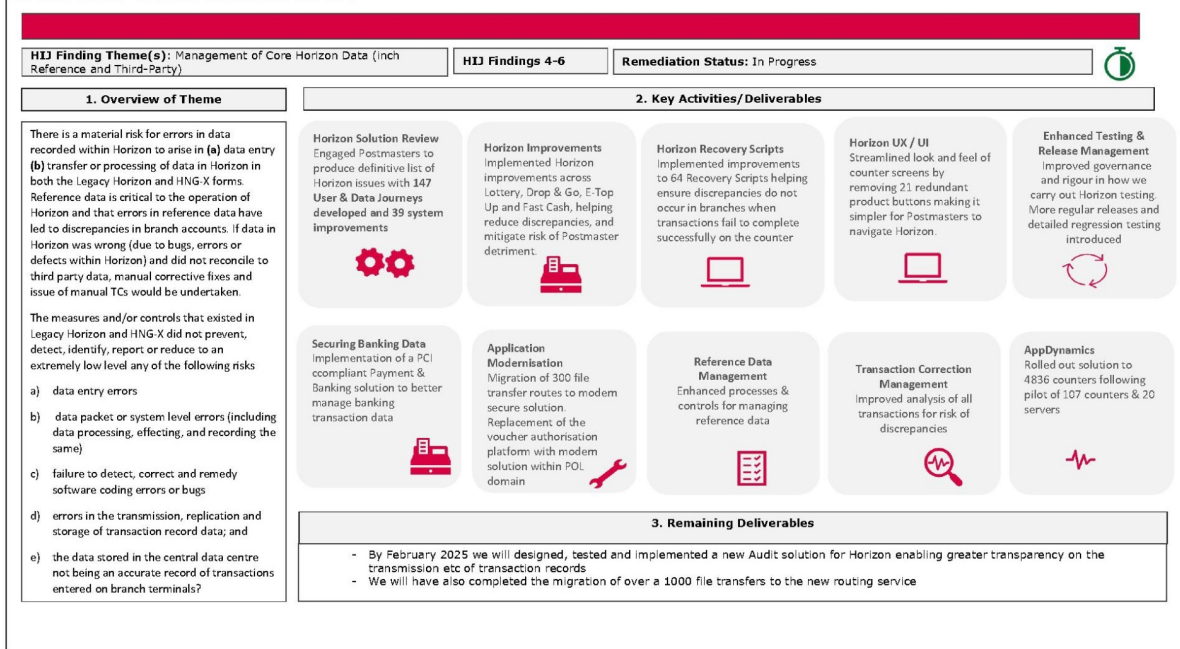
Closed the backlog of 62 historic KELs

New Defect management process ensures Branches are notified and kept informed within 2 days of defect being raised
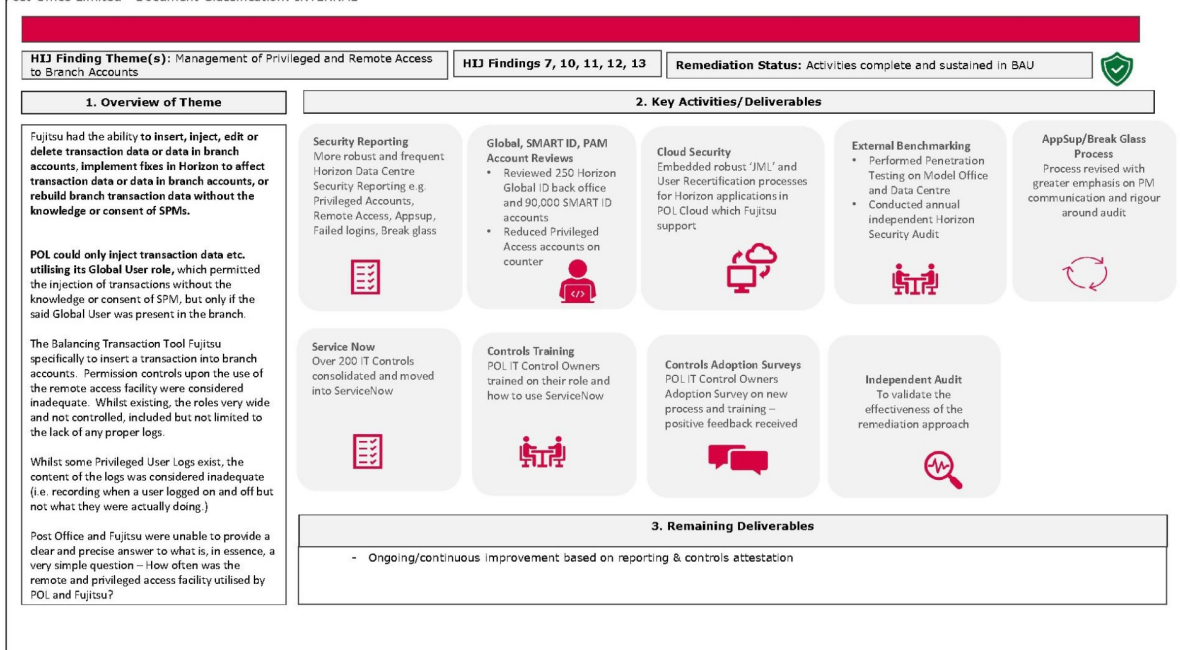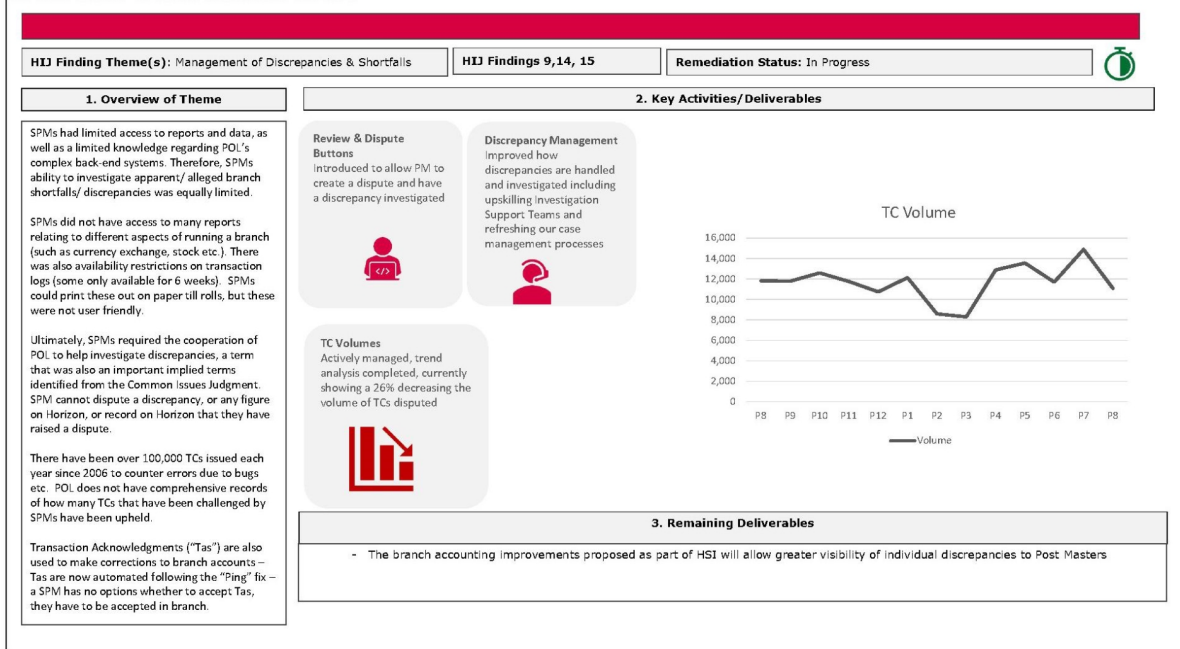
More than 1300 regression scripts successfully tested

Horizon Governance

HDRF: 147 User & Data Journeys developed and 39 process improvements endorsed

HSA: Over 40 Horizon changes or improvements approved since inception

Post Office Limited - Document Classification: INTERNAL

| HIJ Finding Theme(s): Management of Core Horizon Data (inch Reference and Third-Party) | HIJ Findings 4-6 | Remediation Status: In Progress |

1. Overview of Theme

There is a material risk for errors in data recorded within Horizon to arise in (a) data entry (b) transfer or processing of data in Horizon in both the Legacy Horizon and HNG-X forms. Reference data is critical to the operation of Horizon and that errors in reference data have led to discrepancies in branch accounts. If data in Horizon was wrong (due to bugs, errors or defects within Horizon) and did not reconcile to third party data, manual corrective fixes and issue of manual TCs would be undertaken.

The measures and/or controls that existed in Legacy Horizon and HNG-X did not prevent, detect, identify, report or reduce to an extremely low level any of the following risks

a) data entry errors

b) data packet or system level errors (including data processing, effecting, and recording the same)

c) failure to detect, correct and remedy software coding errors or bugs

d) errors in the transmission, replication and storage of transaction record data; and

e) the data stored in the central data centre not being an accurate record of transactions entered on branch terminals?

2. Key Activities/Deliverables

Horizon Solution Review Engaged Postmasters to produce definitive list of Horizon issues with 147 User & Data Journeys developed and 39 system improvements

Horizon Improvements Implemented Horizon improvements across Lottery, Drop & Go, E-Top Up and Fast Cash, helping reduce discrepancies, and mitigate risk of Postmaster detriment.

Horizon Recovery Scripts Implemented improvements to 64 Recovery Scripts helping ensure discrepancies do not occur in branches when transactions fail to complete successfully on the counter

Horizon UX / UI Streamlined look and feel of counter screens by removing 21 redundant product buttons making it simpler for Postmasters to navigate Horizon.

Enhanced Testing & Release Management Improved governance and rigour in how we carry out Horizon testing. More regular releases and detailed regression testing introduced

Securing Banking Data Implementation of a PCI compliant Payment & Banking solution to better manage banking transaction data

Application Modernisation Migration of 300 file transfer routes to modern secure solution. Replacement of the voucher authorisation platform with modern solution within POL domain

Reference Data Management Enhanced processes & controls for managing reference data

Transaction Correction Management Improved analysis of all transactions for risk of discrepancies

AppDynamics Rolled out solution to 4836 counters following pilot of 107 counters & 20 servers

3. Remaining Deliverables

- By February 2025 we will designed, tested and implemented a new Audit solution for Horizon enabling greater transparency on the transmission etc of transaction records
- We will have also completed the migration of over a 1000 file transfers to the new routing service

Supporting numbers

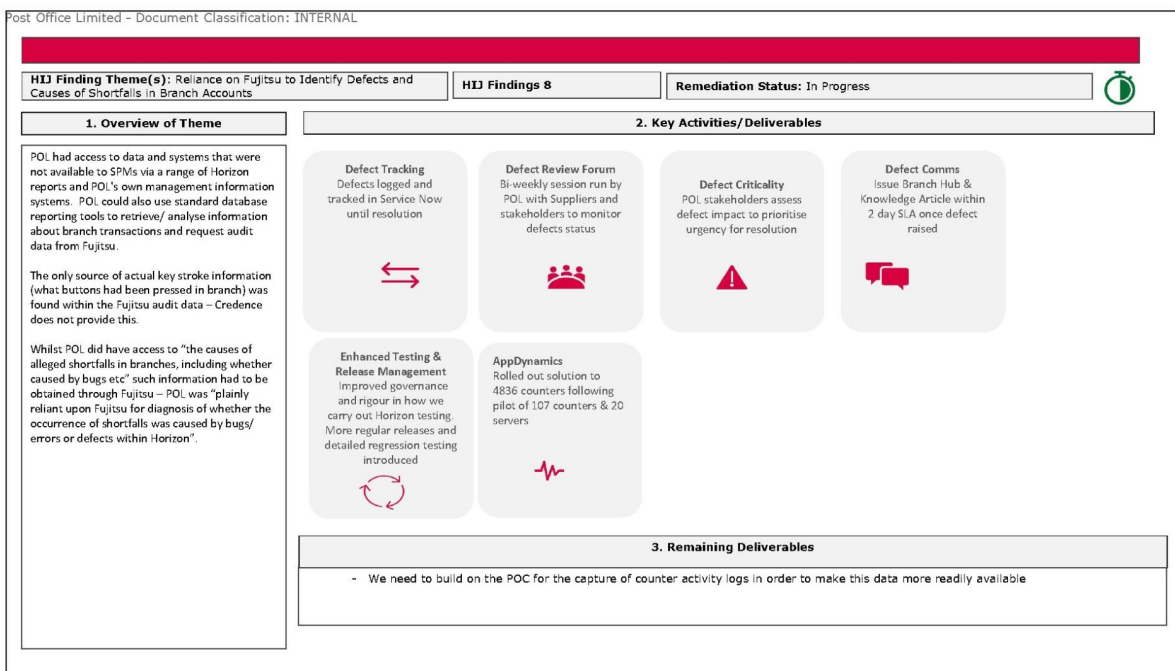Defect Management:

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| **HIJ Finding Theme(s):** Management of Privileged and Remote Access to Branch Accounts | **HIJ Findings 7, 10, 11, 12, 13** | **Remediation Status:** Activities complete and sustained in BAU | |

1. Overview of Theme

Fujitsu had the ability **to insert, inject, edit or delete transaction data or data in branch accounts, implement fixes in Horizon to affect transaction data or data in branch accounts, or rebuild branch transaction data without the knowledge or consent of SPMs.**

POL could only inject transaction data etc. utilising its Global User role, which permitted the injection of transactions without the knowledge or consent of SPM, but only if the said Global User was present in the branch.

The Balancing Transaction Tool Fujitsu specifically to insert a transaction into branch accounts. Permission controls upon the use of the remote access facility were considered inadequate. Whilst existing, the roles very wide and not controlled, included but not limited to the lack of any proper logs.

Whilst some Privileged User Logs exist, the content of the logs was considered inadequate (i.e. recording when a user logged on and off but not what they were actually doing.)

Post Office and Fujitsu were unable to provide a clear and precise answer to what is, in essence, a very simple question – How often was the remote and privileged access facility utilised by POL and Fujitsu?

2. Key Activities/Deliverables

Security Reporting
More robust and frequent Horizon Data Centre Security Reporting e.g. Privileged Accounts, Remote Access, Appsup, Failed logins, Break glass

Global, SMART ID, PAM Account Reviews
- Reviewed 250 Horizon Global ID back office and 90,000 SMART ID accounts
- Reduced Privileged Access accounts on counter

Cloud Security
Embedded robust 'JML' and User Recertification processes for Horizon applications in POL Cloud which Fujitsu support

External Benchmarking
- Performed Penetration Testing on Model Office and Data Centre
- Conducted annual independent Horizon Security Audit

AppSup/Break Glass Process
Process revised with greater emphasis on PM communication and rigour around audit

Service Now
Over 200 IT Controls consolidated and moved into ServiceNow

Controls Training
POL IT Control Owners trained on their role and how to use ServiceNow

Controls Adoption Surveys
POL IT Control Owners Adoption Survey on new process and training – positive feedback received

Independent Audit
To validate the effectiveness of the remediation approach

3. Remaining Deliverables

- Ongoing/continuous improvement based on reporting & controls attestation

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Supporting numbers

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HIJ Finding Theme(s): Management of Discrepancies & Shortfalls	HIJ Findings 9,14, 15	Remediation Status: In Progress

1. Overview of Theme	2. Key Activities/Deliverables

1. Overview of Theme

SPMs had limited access to reports and data, as well as a limited knowledge regarding POL's complex back-end systems. Therefore, SPMs ability to investigate apparent/ alleged branch shortfalls/ discrepancies was equally limited.

SPMs did not have access to many reports relating to different aspects of running a branch (such as currency exchange, stock etc.). There was also availability restrictions on transaction logs (some only available for 6 weeks). SPMs could print these out on paper till rolls, but these were not user friendly.

Ultimately, SPMs required the cooperation of POL to help investigate discrepancies, a term that was also an important implied terms identified from the Common Issues Judgment. SPM cannot dispute a discrepancy, or any figure on Horizon, or record on Horizon that they have raised a dispute.

There have been over 100,000 TCs issued each year since 2006 to counter errors due to bugs etc. POL does not have comprehensive records of how many TCs that have been challenged by SPMs have been upheld.

Transaction Acknowledgments ("Tas") are also used to make corrections to branch accounts – Tas are now automated following the "Ping" fix – a SPM has no options whether to accept Tas, they have to be accepted in branch.

2. Key Activities/Deliverables

Review & Dispute Buttons
Introduced to allow PM to create a dispute and have a discrepancy investigated

Discrepancy Management
Improved how discrepancies are handled and investigated including upskilling Investigation Support Teams and refreshing our case management processes

TC Volumes
Actively managed, trend analysis completed, currently showing a 26% decreasing the volume of TCs disputed

TC Volume

(Chart: TC Volume — Volume plotted across P8, P9, P10, P11, P12, P1, P2, P3, P4, P5, P6, P7, P8; y-axis 0 to 16,000)

3. Remaining Deliverables

- The branch accounting improvements proposed as part of HSI will allow greater visibility of individual discrepancies to Post Masters

Supporting numbers

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HIJ Finding Theme(s): Reliance on Fujitsu to Identify Defects and Causes of Shortfalls in Branch Accounts	HIJ Findings 8	Remediation Status: In Progress

1. Overview of Theme

POL had access to data and systems that were not available to SPMs via a range of Horizon reports and POL's own management information systems. POL could also use standard database reporting tools to retrieve/ analyse information about branch transactions and request audit data from Fujitsu.

The only source of actual key stroke information (what buttons had been pressed in branch) was found within the Fujitsu audit data – Credence does not provide this.

Whilst POL did have access to "the causes of alleged shortfalls in branches, including whether caused by bugs etc" such information had to be obtained through Fujitsu – POL was "plainly reliant upon Fujitsu for diagnosis of whether the occurrence of shortfalls was caused by bugs/ errors or defects within Horizon".

2. Key Activities/Deliverables

Defect Tracking
Defects logged and tracked in Service Now until resolution

Defect Review Forum
Bi-weekly session run by POL with Suppliers and stakeholders to monitor defects status

Defect Criticality
POL stakeholders assess defect impact to prioritise urgency for resolution

Defect Comms
Issue Branch Hub & Knowledge Article within 2 day SLA once defect raised

Enhanced Testing & Release Management
Improved governance and rigour in how we carry out Horizon testing. More regular releases and detailed regression testing introduced

AppDynamics
Rolled out solution to 4836 counters following pilot of 107 counters & 20 servers

3. Remaining Deliverables

- We need to build on the POC for the capture of counter activity logs in order to make this data more readily available

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Proposed Approach to Horizon System Improvements (HSI)
We Have Created 3 Scenarios for Ongoing Improvements

In light of the delays to NBIT the Horizon Remediation Programme has undertaken a review of all remaining Horizon Problem Statements.

This exercise has evaluated the extent to which the issue:

- Exposes Postmasters to risk of creating discrepancies in branch

- Addresses the outcomes of the Horizon Issues Judgement (HIJ)

- As a result, the 10 Horizon improvements have been prioritised for delivery a HIS workstream

A Formal Decision is Required in Order to Progress These Options

Monitoring Remediation – Reporting & Early Warning

Monitoring Remediation
Technology Subcommittee – Monthly reporting

Monthly reporting is now in place that highlights measures including

Branch impacting defects/problems

Horizon stability

Volumes of changes applied to Horizon

Use of privileged or remote access

These are reviewed at IT Leadership, GE and reported to Board
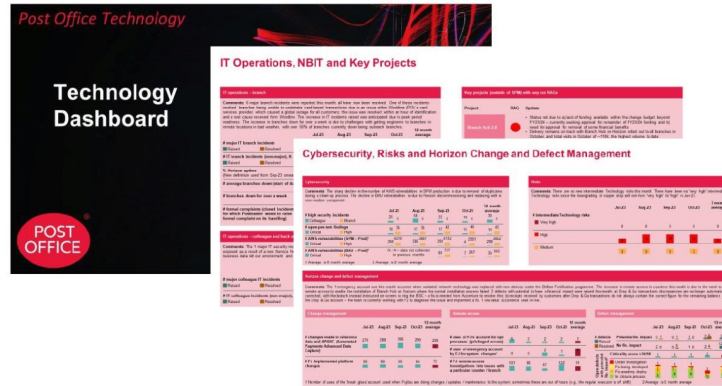
Monitoring Remediation
Horizon Problems (defects) – Monthly reporting

An executive summary of Horizon problems (defects) is prepared monthly and circulated to operational, legal & Historical matters areas

This pack provides a snapshot based on current Service Now data of open problem records, an assessment of criticality & resolution status.

This process is measured through a series of KPIs aimed at ensuring transparency and prompt resolution of Horizon issues

Monitoring Remediation
IT Controls Framework

We have refreshed the overall IT controls framework. This has resulted in over 227 new controls being implemented

These go through cycles of attestation and review to ensure compliance/flag issues where additional work is required.