



POST OFFICE LIMITED

Title:	HIJ Assurance Desk Top Review	Report Date:	16 th August 2024
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Background

As part of the Historical Matters Assurance plan, subsequently renamed 'Legacy Matters Assurance Plan' approved by the General Executive in September 2022, Group Assurance (GA) commenced an assurance review on the remediation status of the Horizon Issue Judgements (HIJ) in October 2022.

This review, which was risk based, was subsequently paused in March 2023¹, as several artefacts, self-assessments (and related GA preliminary concerns) were in the process of being updated/submitted by the Horizon Technology Team (HTT). In addition, HIJ remediation was also subject to the oversight of the then reconstituted IDG2.0, of which GA was a member.

In November 2023, HTT updated IDG2.0 and provided a detailed self-assessment of the status of HIJ remediations. IDG2.0 agreed that GA should perform an objective desk top review based on the information presented by HTT and evidence they provide to support their assessment.

HTT have broken down the 15 HIJ findings into 47 sub deliverables (please refer to **Appendix 1**), of which ten are duplicates (**Appendix 2**). Our report provides an opinion on the status of 37 sub deliverables.

Approach

The GA review in September 2022 adopted a risk based / sustainable approach and hence was broader (similar to the GA approach adopted and completed for CIJ) in contrast to our current approach which is a desk top review, and therefore significantly contingent on the artefacts and quality of documentation provided by the HTT. The desk top review was performed during March 2024 to July 2024.

GA Opinion

From the data and artefacts provided, by HTT, it is overtly evident that a significant amount of work, effort and remediation(s) have occurred. That said, at the time of reporting and based on the evidence provided by HTT, the status of the 37 HIJ deliverables is as follows:

- **Fully met: 5**

In GA opinion clear evidence has been provided to support HTT assertions. (Refer to **Appendix 3**)

- **Met, with some residual exposure: 7**

In GA opinion, whilst the principle of the commitment has been adhered to, some residual exposure may exist, that may warrant additional action/support. (Refer to **Appendix 4**)

- **Not met: 25**

In GA opinion, evidence provided does not fully support HTT assertion on the status of completion. This category can be further broken into three categories (Refer to **Appendix 5**):

- No evidence: **5**
- Evidence not deemed sufficient: **17**
- Considered as work in progress: **3**

In our opinion, the above status may not represent the actual state of conformance, i.e. the overall position might be better. Our view is predicated on the artefacts and evidence provided by HTT which were not sufficiently complete, nor structured or provided in a logical manner to support the desk top review. These concerns were conveyed and discussed with HTT in April and May 2024, however due to restricted capacity within HTT, we were requested to continue our review.

¹ Audit, Risk & Committee was informed in July 2023.

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Appendix 1 - Horizon Issues Judgements

HIJ No	Sub-HIJ	Detail
1	1-14	Defects caused apparent or alleged discrepancies or shortfalls relating to Sub Postmasters branch accounts or transactions.
2		Sub Postmasters were not informed about identified defects. Some defects were not identified by automatic system check and as a result, lay undiscovered for years.
3		Legacy Horizon and HNG-X were not remotely robust, as identified by the number of defects found. The lack of records or logs for the use of powerful access roles also contributes to this.
4	15-26	Data errors, arising from data entry, transfer, or processing in both legacy Horizon and HNG-X led to financial discrepancies. Errors in reference data, and 3 rd party data contributed to discrepancies in branch accounts.
5		If data in Horizon was wrong (due to defects) and did not reconcile to third party data manual Transaction Corrections were undertaken.
6		Legacy Horizon and HNG-X measures and controls did not prevent, identify, or report or reduce a) data entry errors b) data packet or system level errors c) software coding errors or bugs d) transmission, replication, and storage of transactional record data errors e) data stored in the central data centre not being an accurate record of transactions on branch terminal.
7	*27-36	POL and Fujitsu could both access transaction data recorded by Horizon remotely (i.e. not from within a branch).
8	41-47	POL was plainly reliant upon Fujitsu for diagnosis of whether the occurrence of shortfalls was caused by defects within Horizon.
9	**37-40	Postmasters had limited access to reports and data and limited knowledge regarding POL's complex back-end systems. Their ability to investigate discrepancies was therefore equally limited.
10	*27-36	Fujitsu had the ability to insert, inject, edit, or delete transaction data or data in branch accounts without the knowledge or consent of Postmasters.
11		Permission controls upon the use of the remote access facility were considered inadequate. Whilst existing, the roles very wide and not controlled, including but not limited to the lack of any proper logs.
12		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?". This inability directly arises from Fujitsu's plainly inadequate records.
13		The design abilities of those with privileged access rights (i.e., APPSUP role) were very wide. Therefore, such facilities had the potential to affect the reliability of a PM's branch accounts to a material extent.
14	**37-40	A Postmaster cannot dispute a discrepancy, or any figure on Horizon, or record on Horizon that they have raised a dispute.
15		Over 100,000 manual Transaction Corrections (TCs) have been issued each year since 2006 yet POL does not have comprehensive records of how many have been challenged by Postmasters. Transaction Acknowledgments (TAs) are also used to make corrections to branch accounts, but a Postmaster has no option but to accept them.

Source: HIJ Action Owners 210922 V0.1 pdf

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Appendix 2 - Duplicate or linked Lines

Title	HIJ Commitments	Comments
HIJ022	Reference Data Management Enhanced processes & controls for managing reference data.	Duplicate HIJ013
HIJ024	AppDynamics Rolled out solution to 4836 counters following pilot of 107 counters & 20 servers.	Duplicate HIJ011 & HIJ010
HIJ032	Service Now Over 200 IT Controls consolidated and moved into ServiceNow.	See HIJ014
HIJ036	Continuous Improvement Ongoing/continuous improvement based on reporting & controls attestation.	Duplicate HIJ014
HIJ041	Defect Tracking Defects logged and tracked in Service Now until resolution.	Duplicate HIJ002
HIJ042	Defect Review Forum Bi-weekly session run by POL with Suppliers and stakeholders to monitor defects status.	Duplicate HIJ003
HIJ-043	Defect Criticality POL stakeholders assess defect impact to prioritise urgency for resolution.	Duplicate HIJ004
HIJ044	Defect Comms Issue Branch Hub & Knowledge Article within 2-day SLA once defect raised.	Duplicate HIJ005
HIJ045	Enhanced Testing & Release Management Improved governance and rigour in how we carry out Horizon testing. More regular releases and detailed regression testing introduced.	Duplicate HIJ018
HIJ046	AppDynamics Rolled out solution to 4836 counters following pilot of 107 counters & 20 servers.	Duplicate HIJ011 & HIJ010

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Appendix 3 – Fully met: 5

Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ014	Continuous Improvement Ongoing/continuous improvement based on reporting & controls attestation.			
HIJ017	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.			
HIJ031	AppSup/Break Glass Process Process revised with greater emphasis on PM communication and rigour around audit.			
HIJ033	Controls Training POL IT Control Owners trained on their role and how to use ServiceNow.			
HIJ037	Review & Dispute Buttons Introduced to allow PM to create a dispute and have a discrepancy investigated.			

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Appendix 4 - Met, with some residual exposure: 7

Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ001	Historical Defects Closed backlog of historical defects KELs (Know Error Defects).			<p>Based on an external review performed by KPMG (KPMG Report June 2021-Horizon Review Report V4.2 FINAL pdf) it is evident from their report that 62 KELs existed of which:</p> <ul style="list-style-type: none">- 45 were closed.- 14 required testing; and- 3 were undetermined. <p>- Balance remaining 11 requiring testing. (Completeness of KELs therefore demonstrated via the KPMG report).</p> <p>The 11 requiring testing are supported by a Test Closure report (POL Test Closure Report-Historical KELS v0.6 15/06/21) which indicates all 11 KELs passed their testing.</p> <p>GAP:</p> <ol style="list-style-type: none">1) POL Test Closure Report-Historical KELS v0.6 15/06/21 remains unsigned by the POL Horizon IT Director and POL Head of Postmaster Experience.2) Further to the above The Historical KELs Determination and Closure Report v0.5 dated 28/06/2021 has also not been signed off by the POL Horizon IT Director, POL Head of QA and POL Head of Postmaster Experience.3) Underlying supporting data does not necessarily convey in a simple, complete, and aligned manner the same conclusion therefore, GA opinion heavily contingent on KPMP report.4) Governance applied is unclear.
HIJ002	Defect Tracking Defects logged and tracked in ServiceNow until resolution.			<p>Defects are logged and tracked within ServiceNow.</p> <p>GAP:</p> <p>However, the Horizon Problems Monthly Report - April 2024.pptx (sharepoint.com) indicates several SLA's (5 of 7) not being met such as:</p> <ul style="list-style-type: none">• Branch notified within 5 days of identification.• Knowledge Article created within 5 days of identification.• Criticality scored within 5 days of initial investigation conclusion.

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Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
				<ul style="list-style-type: none"> Create impact statement within 5 days of initial investigation conclusion. Meeting held to discuss problem within 5 days of identification. <p>The report is dated April 2024 and does not provide trending or relative benchmarks. (Linked to HIJ005).</p>
HIJ004	Defect Criticality POL stakeholders assess defect impact to prioritise urgency for resolution.			<p>Defects criticality is defined and assessed, including prioritisation carried out accordingly.</p> <p>Potential Exposure: From the evidence, it is unclear how the criticality score is reached, how the weighting has been agreed, and who are the stakeholders that reach the decision and whether this is recorded anywhere.</p>
HIJ010	AppDynamics Completed pilot on 107 counters and 20 Horizon servers.			<p>The PowerPoint-Post Office & AppDynamics Full Stack Observability - Technical Success Criteria 24th May 2022- clearly shows a Pilot was run and what the success criteria were. However, it is not evident from the PPT that the "Pilot covered 107 counters and 20 Horizon Servers".</p> <p>A change request form provided indicates Pilot to include 110. And further the Pilot close email indicates 113 Counters. Change Request File Name: CRQ000000350826 and Email AppDynamics Closure.msg.</p>
HIJ011	AppDynamics Rolled out solution to 4836 counters following pilot.			<p>Whilst it is clear the deployment occurred; the evidence provided, comprises multiple folders (8 folders, 2 have 12 subfolders and 5 contain 14 files), which are not knitted together to provide or support an objective opinion on whether a deployment covered 4836 Counters and outcomes. Linked to HIJ010.</p>
HIJ013	Reference Data Management Enhanced processes & controls for managing reference data.			<p>The evidence provided clearly indicates that considerable diligence was performed to assess status and changes needed for reference data in the KPMG Report Horizon AP-ADC Scripts and Reference Data Solution 2021. In addition, the PowerPoint- Horizon Improvements Programme-Reference Data Logical Model, highlights several rulesets were created for Reference data. That said it is challenging to assess how this was embedded in a consistent and standardised manner and the governance applied to the KPMG recommendations.</p>

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Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ021	Application Modernisation Migration of 300 file transfer routes to modern secure solution. Replacement of the voucher authorisation platform with modern solution within POL domain.			Documentation provided to date does not support the Completeness and Accuracy (audit trail) around the 300 migrations including the Governance process followed. PowerPoint presentation HSA 4 th Sept 2023, slide 3 mentions that there are 253 file transfer routes.

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Appendix 5 – Not met: 25**A - No evidence: 5**

Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ023	Transaction Correction Management Improved analysis of all transactions for risk of discrepancies.			
HIJ034	Controls Adoption Surveys POL IT Control Owners Adoption Survey on new process and training – positive feedback received.			
HIJ035	Independent Audit To validate the effectiveness of the remediation approach.			
HIJ038	Discrepancy Management Improved how discrepancies are handled and investigated including upskilling Investigation Support Teams and refreshing our case management processes.			
HIJ039	TC Volumes Actively managed, trend analysis completed, currently showing a 26% decreasing the volume of TCs disputed.			

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Appendix 5 – Not met: 25**B - Evidence not deemed sufficient: 17**

Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ003	Defect Review Forum Bi-Weekly sessions run by POL with suppliers and stakeholders to monitor defect status.			It is evident that a Defect Review Forum (DRF) exists which is attended by Fujitsu and POL (monthly and weekly) to monitor Defects status [(Horizon Problems Monthly Report - April 2024.pptx (sharepoint.com) and minutes Horizon Defects Forum- Meeting Notes 040324.xls).] That said the evidence provided indicates that the DRF is held monthly/weekly only i.e. no evidence to support BI-Weekly sessions. In addition, the agenda is neither captured or overtly articulated in the monthly presentation and/or minutes of the meeting. Further evidence required to demonstrate the embedding of these meetings.
HIJ005	Defect Comms Issue Branch Hub & Knowledge Article within 2 days SLA once defect raised.			It is evident that, defects Comms are sent out however these are not in line with 2 days SLA as per the Horizon Problems Monthly Report - April 2024.pptx (sharepoint.com). Please also refer to HIJ002 above. NB: Operational KPIs on an annual basis not provided as evidence, therefore unable to access conformance sustainability of complying with PM Comms and Knowledge article SLAs. Linked to HIJ002.
HIJ006	Defect Definitions Consistently identify system defects by severity and business impact.			The POL Test Strategy document D09-019 defines the Defect Management processes within Section 13 Page 49. Including the Severity Definitions and Priority Definitions (business impact). Linked to HIJ 008.
HIJ007	Defect Triage Bi-Weekly meeting led by POL with Fujitsu to discuss all system defects by severity.			It is evident that a Defect Review Forum (DRF) exists attend Fujitsu and POL (monthly and weekly) to oversee and monitor system defects. That said the evidence provided indicates that the DRF is held monthly/weekly only i.e. no evidence to support BI-Weekly sessions.
HIJ008	Defect Thresholds Common set of limits on accepted defect volumes at each stage of testing process.			It is clear from the POL Test Strategy document and the Regression Test Cycle report that limits on accepted defects volumes do exist and are followed (based on a sample of one).

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Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
				<p>Evidence provided highlights the following Gaps:</p> <ol style="list-style-type: none"> 1) POL Test Strategy document does not indicate an approval date; document review dates are all TBC; Section 8 Test Activities Summaries is work in progress; Section 11.1.8 Operational Acceptance Testing is TBC; Section 14.3 is missing; Section 16 Test Roles & Responsibilities is TBC. 2) HSI Test Strategy V.04 (Old)- this still clearly a work in progress (no approval, outstanding POL comments) hence unclear how this supports HIJ commitment. 3) The Regression Test Cycle report (71.20- Regression Test Cycle 1 Daily Metrics Report 20220304) it is unclear why certain tests are not executed and why this is not highlighted in the Executive Summary. <p>Whilst both test strategy documents are comprehensive, outlining the overview of the strategy to be employed for testing, the significant gaps above could be interpreted that neither has been formalised, completed nor signed off.</p>
HIJ009	Defect Tooling JIRA software tool used across POL to capture defects during testing.			Evidence provided does support business self-assessment.
HIJ012	Horizon Solution Authority Agrees Horizon change with focus on Postmaster impact.	Fully Met		Technology provided 4 documents to support their status. From these documents it is clear that a Horizon Solution Authority (HSA) existed however the information provided lacks data/insight on what was brought to HSA, what changes were approved/rejected over a period of time and consequently GA cannot support technologies assessment.

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Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ015	Horizon Solution Review Engaged Postmasters to produce definitive list of Horizon issues with 147 User & Data Journeys developed and 39 system improvements.			Evidence provided whilst clearly showing significant analysis and work being done to identify Problem Statements (see Master Sprint Plan and Backlog Prioritisation.xls) however these do not clearly link back to the statement made i.e. "147 User and Data Journeys developed and 39 system improvements". In addition, the lineage of Problem Statements to current state is unclear including governance applied there to.
HIJ016	Horizon Improvements Implemented Horizon improvements across 1. Lottery, 2. Drop & Go, 3. E-Top Up and 4. Fast Cash, helping reduce discrepancies, and mitigate risk of Postmaster detriment.			Evidence provided far exceeds the 4 topics mentioned for Horizon Improvements. Whilst it is very clear a number of Horizon Improvements have been completed, with a number In Progress, it is not possible to opine on, based on the evidence provided, what impact the changes have had on reducing discrepancies and Postmaster Detriment.
HIJ018	Horizon UX / UI Streamlined look and feel of counter screens by removing 21 redundant product buttons making it simpler for Postmasters to navigate Horizon.			PowerPoint Horizon Programme Update IT Huddle 111021 Final Copy mentions the removal of 9 buttons including the movement of 2 buttons.
HIJ019	Enhanced Testing & Release Management Improved governance and rigour in how we carry out Horizon testing. More regular releases and detailed regression testing introduced.			Linked to HIJ008 and concerns highlighted. However, it is clear policies and procedures have been introduced to enhance the Cadence around testing and regression testing through the support provided.
HIJ020	Securing Banking Data Implementation of a PCI compliant Payment & Banking solution to better manage banking transaction data			PCI Programme Manager email confirmation provided as evidence only.
HIJ025	New Audit Solution By February 2025 we will design, tested, and implemented a new Audit solution for Horizon enabling greater transparency on the transmission etc of transaction records.			Whilst it is clear a project has been initiated. However, there is no evidence which supports the current status of the programme. We have only received the status up to November 2023.
HIJ027	Security Reporting More robust and frequent Horizon Data Centre Security Reporting E.g. Privileged Accounts, Remote Access, Appsup, Failed logins, Break glass.			Whilst it is evident that the reporting and governance have been set up. The evidence provided does not contain Completeness and Accuracy checks, Trend analysis (YOY, Level of Access, Type of Access etc) to demonstrate the embedding of reporting and governance and the corrective/preventative actions taken by operations.

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Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ028	Global, SMART ID, PAM Account Reviews <ul style="list-style-type: none"> Reviewed 250 Horizon Global ID back office and 90,000 SMART ID accounts. Reduced Privileged Access accounts on counter. 			Evidence provided does support business self-assessment. The PowerPoint presentation V2.0 IADM Process Improvements D07-015, provides a status as of 9 th March 2022 however does not provide a view or status of 250 Horizon Global ID back office and 90,000 SMART ID Accounts and reduced Privileged Access Accounts on counter.
HIJ029	Cloud Security Embedded robust 'JML (Joiners, Movers and Leavers)' and User Recertification processes for Horizon applications in POL Cloud which Fujitsu support.			Whilst the evidence shows new processes have been designed. That said it is unclear what MI, KPIs and Governance is being applied.
HIJ030	External Benchmarking <ul style="list-style-type: none"> Performed Penetration Testing on Model Office and Data Centre. Conducted annual independent Horizon Security Audit. 			<p>It is clear that Penetration Testing reviews have been conducted for Model Office and Data Centre however no evidence received for the Independent Horizon Security Audit.</p> <p>For the two Penetration Testing Reports, no latest status on how findings have been provided.</p> <p>Potential Exposure:</p> <p>1.For Penetration Testing Technical Report 23rd March 2022 V1.1, Target Model Office, noted 5 findings, 1 rated High, 1 Low and 3 Information.</p> <p>2. For Penetration Testing Technical Report 9th March 2022 V1.0, Target Infrastructure, noted 14 findings:</p> <ul style="list-style-type: none"> -1 Critical Finding -2 High findings -8 Medium -3 Low.

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Appendix 5 – Not met: 25**C - Considered as Work in progress/Ongoing: 3**

Title	HIJ Commitments	Horizon Tech Team Self-Assessment	GA opinion	Comments
HIJ026	New Routing Service We will have also completed the migration of over a 1000 file transfers to the new routing service.			<p>The email HIJ Assurance-App Mod.msg dated 8th March 2024, mentions that 36 routes have been migrated however unclear how many files this relates to. The narrative mentions that if all routes are migrated this could be up to 1000 files.</p> <p>However, within the Migration Readiness Checklist (1) V0.1.xls it is a challenge to understand the completeness of the 36 routes completed and the number of files, including how the 1000 files transfer is achievable.</p>
HIJ040	Branch Accounting The branch accounting improvements proposed as part of HSI will allow greater visibility of individual discrepancies to Post Masters.			<p>Whilst progress has been made, the main commitment to give great visibility of individual discrepancies to Postmaster has been 'Paused' therefore commitment remains open/WIP.</p>
HIJ047	POC We need to build on the POC for the capture of counter activity logs in order to make this data more readily available.			<p>"PoC created but not yet progressed" are management comments to date.</p> <p>Email support provided dated September 23 and PowerPoint (ppt)-CBA Logging POC v0.3 for update June 23 presentation. Email mentions slides require update however, no update ppt provided for latest status.</p> <p>The commitment has been progressed however the latest status and plans going forward unclear.</p>