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HNG-X Migration Strategy - Agreed Assumptions and Constraints

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Document Title:	HNG-X Migration Strategy - Agreed Assumptions and Constraints
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Abstract:	This document lists the agreed assumptions and constraints for the HNG-X Migration Strategy.
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Note: See Post Office Account HNG-X Reviewers/Approvers Role Matrix (PGM/DCM/ION/0001) for guidance.

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0 Document Control

0.1 Table of Contents

0.2 Document History

Version No.	Date	Summary of Changes and Reason for Issue	Associated Change - CP/PEAK/PPRR Reference
0.1	28/04/2006	First draft for formal review with Post Office as input to the HNG-X contract. First draft version with formal document reference. It is based on an extract from the SIP working paper on HNG-X Migration Strategy. This version replaces previous informal working drafts, and incorporates the revised HNG-X data centre move strategy, together with comments on the working drafts.	
0.2	05/06/2006	Incorporates review comments on version 0.1. Incorporated comments from review of version 0.1. In addition to minor typographical changes, the following changes were made. *Note that the some bullet point numbers have changed in the update, and the numbers below refer to the new document structure.* Document Reference – changed to REQ/CUS/STG/0001 to meet agreed Fujitsu document standards. 4.0.3 to .9 – additional points on IPStream 4.0.10 added clarification that all Branch network changes must be complete before move of Horizon to Fujitsu Data Centres. 4.0.11 to .13 – additional points on VSAT dependencies. 6.0.2 –additional points for: planned upgrades for pilot sites; mop up remaining branches; installation out of hours; and HNG-X migration dependence on router. 6.0.3 – modified to refer to additional post contract documentation. 6.0.11 – added dependency on Branches to be migrated from ISDN as their primary network technology before the migration of the data centres. 7.0 Introduced definitions for Weekend A to Weekend D and updated references to specific weekends throughout section 7. 7.1.15 –additional point on timing of POL FS Move date. 7.1.17 – clarified POL FS production system, 7.3.26 – added ETU to list of online services. 7.3.29 – clarified timing of move of associated batch services. 7.3.30 – additional point on impact on batch files to Post Office and Banking Clients. 7.5.42 – cross reference added. 7.6.44 – additional point clarifying dual sourcing of different categories of non Type A reference data. 7.6.45 – clarification on dual sourcing of Help text. 7.7.2.52 – clarification on period when LINK and CAPO supplied networks have parallel connections to old and new data centres. 7.7.2.53 –Streamline added. 7.7.2.53 – clarification on period when Fujitsu supplied network have parallel connections to old and new data centres.	

		7.7.2.55 – clarification on period when Streamline and e-pay need to support a greater number of parallel session connections.	
		7.7.3.58 – added impact on TES data availability over migration weekends.	
		7.7.4.63 – added impact on inbound batch file processing for LREC, EMIS and DTF files.	
		7.7.5.65 – added statement that POL is responsible for the update.	
		8.1.5 – clarified time when branches would need to complete all operations prior to start of branch migration.	
		8.3.24 – clarified usage of new daily summaries.	
		8.4.36 – clarified when the HNG-X report will be produced.	
		8.4.37 – clarified logging of an event reporting the outcome of the report comparison.	
		8.4.37, 8.5.42 & 8.5.43 – clarified as Horizon Service Desk.	
		8.5.47 – clarified that the new branch would have no visibility of all previous transaction data from the old branch.	
		9.1.1 – text clarified and reference to Post Office Ltd Release Authorisation Board.	
		10.0.12 – clarified that once the new spare has been cut in, the operating system upgrade from NT to XP will be implemented automatically when counters are replaced.	
		13.6 & 13.7 – clarified that the out of hours support requirement is primarily for Post Office programme management rather than branch staff.	
0.3	23/06/2006	Incorporates further revisions based on comments on version 0.2.	
		Incorporated comments on changes made between version 0.1 and version 0.2. In addition to minor typographical changes, the following changes were made.	
		Note that the some bullet point numbers have changed in the update, and the numbers below refer to the new document structure.	
		4.0.4 – clarified that the branch will be interrupted for up to 30 minutes.	
		4.0.6 – Current BT Core hours clarified.	
		4.0.8 – original bullet point 8 removed and subsequent points renumbered.	
		4.0.9, 13, 14 & 15 – Other Branch network changes clarified.	
		7.0.5 – clarified that online services impacted during migration weekends C and D.	
		7.5.41 – clarified dependency on Live reference data proving before branches can be run on HNG-X counters.	
		7.6.44 & 44.f – replaced "parallel feeds" with "dual feeds" for consistency and clarification.	
		7.6.46 – Clarified that Live reference data proving can start after weekend B.	
		7.6.47 – New point on additional reference data changes post branch migration.	
		7.7.2.53 / 54 – Clarified that the parallel period applies to Live network connections and that testing provision are to be covered separately.	

		9.3 – Clarified that it is the Branch OBC process.	
		12.0 – New point on additional reference data changes post branch migration.	
1.0	03/07/2006	Issued for approval.	
		Converted to new HNG-X document template format. No changes to document content from version 0.3.	
1.1	29/06/2009	Update to reflect changes as a result of CPs including: • CP0284 Removal of Branch Services Migration (Weekend D) • CP0204 - De-risk Weekend B/C Migration • CP0304 - Extension of Branch Router Solution to include VSAT branches (Fixed and Luggable)	
1.2	14/09/09	Updated to reflect changes in POL FS (Section 7.1) from Stuart Michie, CS and Deployment Teams , and Development, including the provision of a detailed statement on FJ's approach to moving the Centera Kit for Weekend D	
1.3	27/10/09	Simplification of document to refer to Horizon On Line Migration Strategy	
1.4	02/08/2008	Updates to Distribution list and minor clarifications for review. Changes marked in red (with strikeout where appropriate)	
1.5	19/11/2010	Updates in response to review comments. Changes marked in red (with strikeout where appropriate)	
2.0	19-Nov-2010	Approved version	

0.3 Review Details

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Issued for Information – Please restrict this distribution list to a minimum	
HNG-X Testing	George Zolkiewka

(*) = Reviewers that returned comments

(†) = Reviewers that returned no comments

0.4 Associated Documents (Internal & External)

Reference	Version	Date	Title	Source
PGM/DCM/TEM/0001 (DO NOT REMOVE)			Fujitsu Services Post Office Account HNG-X Document Template	Dimensions
Schedule B5			Transition and Migration	HNG-X Contract
ARC/GEN/REP/0001			HNG-X Glossary	Dimensions
ARC/MIG/STG/0001			Horizon Online Migration Strategy	Dimensions
ARC/SOL/ARC/0006			HNG-X Architecture - Global Users	Dimensions
DES/MIG/HLD/0001			Migration High-Level Design for Branches	Dimensions
DES/MIG/HLD/0002			Migration High-Level Design for Data Centres	Dimensions

(*) = Reviewers that returned comments

Unless a specific version is referred to above, reference should be made to the current approved versions of the documents.

N.B. Printed versions of this document are not under change control.

0.5 Abbreviations

Abbreviation	Definition
SIP	Systems Integration Partnership
OBC	Operational Branch Change. Can refer to either OBC Engineering – the increase/ decrease in Counters or Branches or Reference Data handled by the Reference Data Team.
ETU	Electronic Top-Ups
KMA	Key Management Application
TES	Transaction Enquiry System

0.6 Glossary

See also [ARC/GEN/REP/0001].

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Term	Definition
Weekend A	POL FS – this is now scheduled to take place following weekend B/C
Weekend B/C	Batch Services and Online Services (excluding PAF)
Weekend D	Branch Services (excluding Correspondence Servers, Agents and some supporting servers) – including the Reference Date Servers moving to Ireland Datacentres from Wigan and Bootle.

0.7 Changes Expected

Changes

0.8 Copyright

1 Objectives

To provide a document that summarises the main assumptions and constraints on the Migration Strategy for the transition from Horizon to HNG-X.

It is intended to use this document as part of the HNG-X contract.

This is a summary document and does not cover all final details of the Migration process. A separate more detailed migration strategy has been produced and agreed post contract. This was based on the existing draft working paper on the Horizon On Line Migration Strategy.

2 Scope

The scope is specifically to provide an overview of the agreed migration strategy assumptions and constraints.

The assumptions and constraints within this document will be the agreed contractual position and subject to change control during the detailed design phase.

3 Overall Strategy/Approach

For details of the Migration approach, please refer to the Horizon Online Migration Strategy ([ARC/MIG/STG/0001]). The migration from Horizon to HNG-X will take place in a number of stages. There are two major phases: Data Centre Migration and Branch Migration, and there are individual stages within these.

In line with most of the recent Horizon releases, the data centre migration will need to complete before the main phase of Branch migration is started. There are however, some aspects of the Branch migration that will be done before or in parallel with Data Centre migration.

4 Branch Network Changes Assumptions and Constraints

1. Automated migration will take place overnight – typically between 03:00 and 06:00.

2. Manual migration can only take place during core BT hours. (These are currently Monday to Friday 08:00 to 19:00, but the actual time cannot be scheduled.)

3. Fujitsu will work with BT and Post Office to minimise the disruption to branches for manual migration

4. ISDN Dial on Demand will be supported following the move to the new Datacentre Campus. Both for Outreach and Out of Core Hours to the remaining Branch Estate.

5. Where either a Branch is using ISDN as Prime Communications during Core Hours or is serviced by Kingston Communications (i.e. Hull) ISDN will be always on. Out of Core hours it will revert to Dial on Demand.

5   Branch   Router   Rollout   Assumptions   and Constraints

1. The New Router installation will take place on Horizon and will complete before HNG-X is rolled out. All Horizon communication will be via the Gateway PC until the branch has been migrated to HNG-X.

2. The rollout of these routers will be done in the Horizon system through a branch by branch physical rollout with a Pilot commencing immediately following implementation of Weekend B/C.

3. Pilot Branches will have routers installed on a planned basis with appointments being agreed by Sub-postmasters and Post Office Ltd.

4. Fujitsu costs have assumed that this activity is done in hours for all sites. Out of Hours visits can be arranged and a separate cost has been supplied to Post Office Ltd for consideration.

5. No branch can be migrated to HNG-X until the router installation has been completed.

6. An Installation process document has been developed during the design phase in accordance with the high level implementation strategy.

7. Router Install has two phases - Configuration of the router and Installation in the branch.

8. The branch will be closed for the router installation to be undertaken.

9. The following steps are required by the Engineer to install the router:
    *   Disconnect ADSL and ISDN wiring from Gateway PC. Plug into router. Confirm ADSL service establishes okay and ISDN backup (if specified) works).
    *   Plug Gateway PC network connection into router
    *   Reconfigure gateway PC to use router (engineering button on desktop).
    *   Confirm router working as expected (probably using the network test button on the desktop).

10. Provided that the following circumstances are true, then the downtime to the branch service is expected to be around 60 minutes as the branch will need to be closed for the router installation to take place (subject to test and documented within Rollout planning documentation):
    *   The router can be configured without disrupting the branch.
    *   There is a suitable location to site the router including power.
    *   Access to the rear of the gateway PC (to disconnect ADSL, ISDN and LAN cables and install new LAN cable) is possible without having to turn off the PC.
    *   The branch manager is onsite to log in to allow access to the engineering button. If this is not the case then a one shot password would be required adding around 15 to 30 minutes to the process.
    *   Multiple branch routers can be provisioned simultaneously without impacting on the downtime. The current rollout assumes 50 engineers working concurrently. Therefore at least 50 branches need to be provisioned concurrently without any degradation of downtime.

11. The down time to the branch will be longer in the following circumstances:
    *   No network is available to configure the router without disrupting the gateway PC (this is seen as unlikely as most sites should get a mobile signal and at least a PSTN line should also be available).
    *   Access cannot be gained to the rear of the PC without turning it off.

12. The router installation times will require a relaxation of the onsite visit time SLT on branch and counter availability figures or agreement that these installations don't count towards that SLT.

13. Where there is no suitable location to site the router next to the gateway PC further disruption is likely. In this scenario or if access to the PC cannot be gained due to physical issues (e.g. boxed in

by cabinets) then this will have to be dealt with by Post Office. It is assumed this would follow normal practice of a call being raised with Romec.

14. Branches with ISDN as their primary network technology will be migrated to ADSL before the migration of the data centres. This is handled as part of the branch router rollout.

6 Migration of Data Centres to Support HNG-X Assumptions and Constraints

1. Before the data centre migration to support HNG-X, there are two independent systems:

   - HNG-X Data Centres in DC01/02 that have completed testing and acceptance but are not yet supporting any live workload.

   - Wigan and Bootle which are running Horizon.

2. During the migration all 4 data centres together are required to provide the full solution, with network connections between the data centres to provide connectivity.

3. The migration from Wigan and Bootle is made up of 4 phases:

   - Move of POL FS from Wigan Bootle to the new data centres

   - Migration of batch services to the new data centres

   - Migration of online services to the new data centres

   - Migration of Audit and Branch services to the new data centres

4. Before each migration phase there will be a rehearsal. For POL-FS this rehearsal is achieved through the use of the development and test systems. For the other migrations this is achieved through data migration. The rehearsal allows a useful confirmation that there are no issues that weren't found in testing.

5. Other than the lack of online services during migration weekends C and D &, there must be no impact on Horizon branches.

6. For any services that support serving customers in Post Office branches, full resilience and failover capability including Disaster Recovery, must be available Monday to Friday 08.00 to 18.00 and Saturday 08.00 to 14.00. Outside these times resilience and immediate DR may be removed during migration, providing it can be restored before 08.00 in the next Working Day.

7. For non-critical services (e.g. Audit ARQ service), DR facilities may be unavailable for up to 1 week to give time to migrate these services.

8. Over the migration weekends, it is mandatory that there is a single empowered representative of Post Office who is able to approve decisions in the case of issues occurring. These issues are likely to include whether we should continue or regress in case of disaster, and is empowered to make decisions as the more detailed plan is developed about what is acceptable to Post Office.

9. Where required for individual migration weekends, OBC will need to be accelerated in the week before (as per normal practice for Horizon major releases). Details will be agreed with Post Office at the detailed migration planning stage.

10. Once migration is complete and branch migration starts, the batch feeds to external systems will contain merged data streams so that Client deliveries are not impacted by the migration process.

11. It is acceptable that the security on Banking, Debit card and ETU transactions within Horizon is relaxed in line with the target HNG-X design. This is necessary where there are joint flows (Horizon and HNG-X) to the 3rd party clients.

12. Fujitsu and Post Office Ltd will agree processes for movement of data during data centre move to cover any marginal changes to Confidentiality, Integrity and Availability during physical movement.

6.1 POL FS Move to New Data Centre

13. POL-FS can be unavailable from 18:00 Friday to 08:00 Tuesday over a non-bank holiday weekend. Testing of the migration process will confirm what downtime is required.

14. POL FS (SAP system) will be migrated from Wigan and Bootle to POLSAP infrastructure in DC01 and DC02.

15. The POL FS development and test systems will remain in place in Wigan and Bootle until the POLSAP Applications project go live, where the development and test services for POL FS will be provided as part of the POLSAP service. At this stage the POL FS development and test systems in Wigan and Bootle will turned off and decommissioned.

16. Migration of the POL FS production systems will be done over weekend A, starting Friday Afternoon once the overnight backup has been completed. Data from the production systems in Wigan and Bootle will be written to tape transported to Ireland and then read back in at DC01. Following restoration and test, data catch-up will be needed to process data generated by Horizon while the migration has taken place.

6.2 Migration of Batch Services to New Data Centres

17. Migration of the batch services (TPS, APS, LFS, DRS, TES, RDMC, RDDS, DWH) to the new data centres will take place over a normal weekend – weekend B. Note – KMA Batch Service is not moving to the new Data Centres.

18. Delays of batch files to Post Office, Clients and Banks over the weekend B are acceptable (Friday night would be normal, Saturday could be up to 12 hours late, but up to 24 hours if all contingency in the plan is required).

19. For the batch databases data will be backed up to tape in Bootle, shipped to the new data centres and then restored. (The data will still be available for contingency purposes via the Wigan EMC discs).

20. Data for the Audit system (in the Centera arrays) will be moved. This was done as part of Migration of Branch Services (see section 6.4).

21. Until the Online services are migrated at weekend B/C, the update of TES with information of the Request, Authorisation and reversal parts of the banking transactions will be done overnight rather than during the day. However the counter view (confirmation) will continue to be done during the day.

6.3 Migration of Online Services to New Data Centres

22. Migration of the online services (Banking, ETU, DVLA, DCS, APOP) to the new data centres will take place over a normal weekend – weekend BC. Migration of the Service Hub (BBND, BKAC, PGDD) and MGRM to the new data centres will also take place over the BC migration weekend. Note that the DCS and ETU services for non-PCI Horizon Counters remain in Wigan and Bootle.

23. Post Office is responsible for ensuring that network connections provided by VocaLINK and Card Account are installed. Post Office Ltd will manage these connections with the Clients and ensure that these activities are completed at least 2 months before weekend BC.

24. Post Office will accept, over weekend BC, no online services to branches from 18:00 Saturday until (potentially) 08:00 Monday. The actual period is expected to be shorter than this, with services expected to be running by 12:00 Sunday.

25. A delay of batch files to Post Office and Banking Clients over the weekend BC is acceptable (Friday night would be normal, Saturday could be up to 4 hours late, but up to 12 hours if all contingency in the plan is required).

26. Once the services have been moved and up and running, it is proposed to use Old Street and Dearne and test branches in BRA01 to check that online services are working correctly and meet acceptance criteria. This will be done before the estate as a whole can progress to allow connections to the migrated services.

6.4 Migration of Branch Services to New Data Centres

27. Migration of the audit services and SYSMAN back end servers to the new data centres will take place over a normal weekend – weekend D. The remaining branch-facing services (legacy Sysman 2, domain controllers, correspondence servers and generic agents) will remain in service in Wigan and Bootle until the last counter is migrated to HNGX, although their utilisation will diminish as more branches are migrated.

28. There will be no outage of Online Services for Weekend D.

29. For the correspondence services, there will be no change until the completion of the HNGX Branch Migration. The service will remain in Wigan and Bootle until the end of HNGX Branch Migration.

30. Fujitsu has confirmed to Post Office Ltd that the integrity of the audit data will be preserved during the migration of the Centera Servers from Wigan and Bootle to IRE11 and IRER19.

31. Once the Centera servers have been installed into Ireland, and commissioned into live service, any issues will be "fixed forwards". Only as a last resort will the swing kit be reconfigured to provide the live service out of Wigan and Bootle in the unlikely event of a major software corruption and data loss occurrence on the live kit during transit.

32. Delay of batch files to Post Office and Clients over the weekend D are acceptable (Friday night would be normal, Saturday could be up to 4 hours late, but up to 12 hours if all contingency in the plan is required).

6.5 HNG-X Specific Services

33. Once the data centre migration is complete, the HNG-X specific services can be introduced including Branch database and Session Manager Servers. This can take place after the weekend B/C as they do not at this point impact live branches.

34. Included in this activity are the build of the branch database which is likely to take several days due to its size. Therefore at least 1 week from weekend B/C is required before this is complete.

35. Once this work and the HNG-X Live reference data proving (see 6.6.40) is completed, it is possible for branches to be run on HNG-X counters. However as the transaction history will take a number of weeks to build up for existing branches, immediately only two types of branch can be moved onto HNG-X:
    - Those with no transaction history – specifically new branches opened on HNG-X.
    - Those where transaction history is not business critical – for example Old Street Model Office.

36. The minimum requirement is that the history goes back at least as far as the last branch trading period cut over point for all Stock Units in the branch. (See Branch migration to new application section 7.4 below).

6.6 Reference Data

37. All Type A data will be automatically distributed to both Horizon and HNG-X branches. This data is supplied on the electronic interface from POL conforming to the RDS AIS. The baseline assumption is that there are no changes to the RDS AIS so that there are no dependent changes on RDS in this migration stage. There may however, be specific HNG-X reference data delivered within the existing interface, including usage of new "Type" records that are permitted within the RDS AIS.

38. All other types of reference data will need to be supplied as separate dual feeds (to both the Horizon Data Centre systems and HNG-X), except for specific cases where the volumes of changes during the branch migration period would justify a single source of data. The different categories of non Type A data and responsibility, where applicable, for providing the dual feed during the migration period are listed below:

    a. Postal Services reference data will need to be supplied separately from the Mails reference data used in Horizon branches. This new reference data feed will use a new interface into the HNG-X specific systems. POL will manage this data and are responsible for dual feeds during the branch migration period.

    b. Additional Reference Data for Smart Post Admin and T&T: This data is relatively static managed by Fujitsu on Horizon, under direction by POL. Equivalent data will be incorporated into the new Postal Services data managed by POL for HNG-X. Any changes in the branch migration period will need to be maintained on both systems. POL will manage the HNG-X version of this data and are responsible for co-ordinating with Fujitsu any updates needed for Horizon during the branch migration period.

    c. AP ADC reference data: This data will be different between Horizon and HNG-X. The Horizon data is managed by Fujitsu under direction from POL. A new data format will be defined by Fujitsu for HNG-X, hence a dual feed will be required. Fujitsu will manage this data during the branch migration period.

    d. Accounting Nodes: The mapping of products to Accounting Nodes is managed by POL within the Type A data. Fujitsu create new Accounting Nodes as requested by POL. The same data will be used to drive both Horizon and HNG-X, hence only a single source of data is required in the branch migration period.

    e. Secondary mappings: The secondary mappings of products / modes to accounting nodes are maintained by Fujitsu. This data will be different between Horizon and HNG-X. The Horizon data is managed by Fujitsu under direction from POL. A new data format will be defined by Fujitsu for HNG-X, hence a dual feed will be required. Fujitsu will manage this data during the branch migration period.

    f. Menu Hierarchy and associated attributes: This data will be different between Horizon and HNG-X. The Horizon data is managed by Fujitsu under direction from POL. A new data format will be defined by Fujitsu for HNG-X, hence a dual feed will be required. Fujitsu will manage this data during the branch migration period.

    g. Sales Prompts: These are supplied by POL within the Type A interface, however due to the potentially different menu structure format for HNG-X, it may be necessary for POL to supply some of the sales prompt reference data separately for Horizon and HNG-X.

    h. Bureau spot rates and margins files: These files are received direct from FRTS and will be automatically distributed to both systems during branch migration.

    i.   Bureau Currency Services reference data: This data is maintained by Fujitsu under direction from POL. The data changes are relatively infrequent (as new currencies are introduced and old ones removed). The distribution format will be different between Horizon and HNG-X, hence a dual feed will be required. Fujitsu will manage dual feeds of this data during the branch migration period.

    j.   Client specific system and receipt text messages: This data is maintained by Fujitsu under direction from POL. The distribution format will be different between Horizon and HNG-X, hence a dual feed will be required, Fujitsu will manage dual feeds of this data during the branch migration period.

    k.   PIN Pad Reference Data: This data is maintained by Fujitsu under direction from POL. The distribution format will be different between Horizon and HNG-X, however Fujitsu will update the PIN Pad Reference Data editing tool to generate both formats, so that both forms can be generated from a single source. Fujitsu will manage the dual feeds of this data during the branch migration period.

    l.   APOP Service definitions: This data is specific to APOP host and the same data will be used for both Horizon and HNG-X. POL are responsible for producing this data.

    m.   XSL Templates: This data defines the customised receipt templates for use in bespoke transaction receipts. This data will be significantly different between Horizon and HNG-X, and dual feeds of this data will be needed for changes during the branch migration period. Fujitsu are responsible for this data.

    n.   Soft Launch data: This data is application specific and provides the enabling mechanism for Soft Launch. This category does not include the associated Non Core trigger product reference data which is delivered through the type A interface. This data will be significantly different between Horizon and HNG-X and dual feeds of this data will be needed for changes during the branch migration period. Fujitsu are responsible for this data.

    o.   Application specific reference data: This is specific to the application and will be significantly different between Horizon and HNG-X. Fujitsu are responsible for this data.

39. The Help system for HNG-X will be managed differently from Horizon. Currently on Horizon, the Help text is limited to SmartPost. Hence these Mails specific Help pages will need to be supplied separately to HNG-X, as part of the general HNG-X Help pages. POL is responsible for producing this new data, and will need to maintain both Horizon and HNG-X format Help text during the branch migration period.

40. Lead times on reference data provision need to be agreed for the provision of the new reference data for HNG-X. Whilst the main dependency will be into the testing phase, the Live delivery must accommodate the lead times needed for Live reference data proving after the data centre upgrade and prior to start of HNG-X branch migration. The Live reference data proving activity can start after weekend B, once the RDMC & RDDS systems have been moved to the new data centres.

41. Once Branch migration from Horizon to HNG-X is complete, there will also be reference data changes (and associated Live reference data proving) to remove Horizon specific reference data (see section 10.0).

6.7   Client Interfaces Assumptions and Constraints

During the data centre upgrade to the new application, and in the branch migration period following the upgrade, the following assumptions and constraints apply to the various client interfaces:

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6.7.1   AP Clients

42. Individual AP clients may experience delays in receipt of transaction files over weekend B/C, however, since very few of these take deliveries 7 days per week, the impact will be limited.

43. During the branch migration period AP Clients will be unaware of whether the transactions originate from Horizon or HNG-X branches.

44. It is assumed that all AP Clients using the Type X interface are not dependent on the order of individual fields within the XML data.

6.7.2   Online Branch Interfaces

45. Online interfaces will not be available during certain periods of weekend B/C.

46. Network configuration, including IP addresses, may change when moving between data centres and when moving to a production / DR configuration.

47. Some Clients (i.e. VocaLINK and Card Account) will need to provide alternative network connections to the new data centres, and retain in parallel operation for a period of time so that the new network connection can be tested prior to the data centre move. The parallel period for the Live network connections will start at least 2 months before weekend B/C and will continue until the network connections are removed during the decommissioning of the old data centres.

48. For some Clients (i.e. DVLA, A&L Streamline and e-pay), Fujitsu will provide alternative network connections to the new data centres, and retain in parallel operation for a period of time so that the new network connection can be validated prior to the data centre move. The parallel period for the Live network connections will start at least 2 months before weekend B/C and will continue until the network connections are removed during the decommissioning of the old data centres.

49. Distribution of new spot rate files from FRTS will be delayed during weekends B/C and D – though there are normally no updates to the spot rate files over weekends. An additional file will be sent by FRTS for Saturday with an effective date time before close of play on Friday.

50. From weekend B/C until the end of branch migration, there will be a greater number of parallel session connections between Horizon Data Centre and some Clients (i.e. e-pay and Streamline).

51. All banking clients will continue to use the same number of connections and will receive transactions load balanced across these connections.

52. The Online Client systems will not be aware whether transactions originate from Horizon or HNG-X branches. The HNGX source address needs to be registered with Neopost for PGDD connections to be accepted from HNGX.

6.7.3   Online Internal POL Interfaces

53. Online interfaces will not be available during certain periods of weekend B/C. Impacts TES and APOP workstation availability to POL. Data availability within TES may be impacted during weekends B/C.

6.7.4   Other Branch Interfaces

54. All Clients with batch interfaces may experience delays in receipt of transaction files over weekends (B/C).

55. Banking Clients (A&L and Card Account) may experience delays in receipt of settlement files over weekends (B/C).

56. Once the Data centre has been upgraded for new application at weekend B/C, the number of payment files delivered to Streamline per day will decrease (from two to one) during normal operation.

57. Where files are received from external systems (i.e. LREC file from VocaLINK, EMIS file from Streamline and DTF file from e-pay) there may be delays in processing these files over the data centre migration weekends B, C and D.

58. The reconciliation reports provided to POL will conform to the agreed specification documents. These reports will not distinguish between transactions that originate from Horizon or HNG-X branches. Fujitsu Services has assumed that internal reconciliation reports during migration will not include any additional migration specific reconciliation reporting.

6.7.5   Client Interface Documentation

59. A number of AIS and TIS documents will need to be updated. POL is responsible for these documents.

60. A number of the documents refer explicitly to Wigan and Bootle, and may need to be updated to reflect the new data centre locations.

61. A number of the documents refer explicitly to the active / active configuration of the Horizon data centres, and may need to be updated to reflect the new Production & Test/DR configuration. In some cases, this may require additional network connectivity to be defined and/or IP address changes.

62. Some of the AIS / TIS documents refer to the maximum number of concurrent sessions that can be supported and may need to be changed for the duration of the Horizon to HNG-X branch migration period – i.e. e-pay and Streamline.

63. Details of procedures to be invoked in DR situations may need to be updated, or new documents produced. Some of these are in OLA documents rather than AIS/TIS documents.

64. The AP Client specification documents would need to be withdrawn when the client transfers to connection via EDG.

6.8 Wigan / Bootle Data Centres Decommissioned

65. Once the data centre move has completed and the new service is fully deployed at DC01/02, the data centres at Wigan and Bootle will be decommissioned. Any equipment rented for migration will need to be swapped out for kit from Wigan/Bootle. This will be planned in detail later, but does not need to be complete before Branch Migration starts.

7 HNG-X Application Pilot

7.1 General Assumptions and Constraints for Branch Migration Pilot

1. There will be no hardware changes, other than the installation of the new router (which is completed in advance), so the new application will operate on the existing counter hardware.

2. The initial operating system will be Windows / NT to avoid the higher risk of changing both application and operating system at the same time.

3. There will be no engineering presence within the branch at the point of migration, and any manual actions required would need to be performed by the branch manager.

4. All counters in a branch must migrate at the same time to the new application. Any failures cause the whole branch to regress to Horizon mode. However there are levels of tolerance by which failure of migration will be determined. For 5-7 Counter branches, if one Counter fails to migrate the Branch will still move to Horizon Online. For 8-10 Counter branches, if two Counters fail to migrate the Branch will still move to Horizon Online. Branches with 11 Counters or more will move to Horizon Online with up to 3 Counters failing to migrate.

5. It is assumed that each branch can be closed for business some time before EOD at 17:30 and will not be open again until at least 07:00 the following morning. No trading will be possible in the time whilst the branch is being migrated. [This process will take between 30 minutes and 1 hour depending on branch size, hence branches would need to complete all operations and all counters be logged off as soon as possible after 1700 and by 1730 at the latest. Details to be agreed post contract.]

6. The stock and cash position within the branch must be identical before and after migration, excluding known and accepted exceptions, for example the display of traveller's cheque information. A full list of these exceptions will be agreed with POL prior to Branch Migration.

7. There can be no constraints between the timing of the migration and the roll over of individual stock units into new trading periods – i.e. the migration process must cater for branches in various stages of trading since it is not realistic to force a branch to synchronise all Stock Units at the point of migration.

8. The individual stock unit positions must be preserved over migration.

9. Following migration, the branch must have access to previous transactions history for use in reporting and reversals where permitted by business rules. (For example, AP transactions can only be reversed within the same trading day, hence it will not be possible to reverse AP transactions carried out under Horizon following cutover to HNG-X.)

10. Cut off reports run after migration must pick up any transactions performed under Horizon that have not already been cut off.

11. All users, roles and stock unit allocations must be preserved, but it is assumed to be acceptable that new passwords will be needed after migration.

12. It is assumed that the 'read' status of messages and planned orders does not need to be preserved.

13. Outstanding recovery for both APS and online transactions (i.e. Banking, Debit Card and ETU) must be completed prior to migration. (As well as removing the need to migrate recovery data, this restriction also avoids the need to support reversal of these online transactions carried out under Horizon following cutover to HNG-X.)

14. Horizon events will not be migrated to the branch database, and therefore will not appear in event reports at the branch post migration. However, these events would still be available via the audit system (ARQ) process.

15. It is assumed that there can be a point of no return in the migration of an individual branch. This point will be when the Branch Manager confirms that the post-migration report is acceptable, which will either be early the next working day after migration or the next day of opening for those branches which do not open on consecutive days.

16. Once the point of no return has been reached, Horizon specific subsystems will be automatically informed of the closure of the branch under Horizon, and ensure that transactions from the branch are harvested from the branch database rather than the correspondence server.

17. Global User Accounts will replace the existing One Shot Password. Further information on Global User Accounts can be located in [ARC/SOL/ARC/0006]. The process for informing Global Users of their Usernames and Passwords is for HSD to contact the users direct with usernames and passwords communicated separately and an audit process in place.

7.2 Support Function Migration (e.g. NBSC)

18. The Horizon Service Desk will be providing service to Branches during the transition period covering both the Horizon and the HNG-X estate. There will be no significant change to the service provided by HSD with the advent of HNG-X.

19. The Engineering Service will also be providing service to Horizon Branches and HNG-X Branches during the transition period. The laptop data retrieval element of the service will no longer be required for Branches that have migrated to HNG-X.

20. The NBSC will be providing service to Branches during the transition period covering both the Horizon and the HNG-X estate. It is understood that there will be no significant change to the service provided by NBSC with the advent of HNG-X.

7.3 Horizon Upgrade Prior to HNG-X Migration

21. An additional process will run at end of day on the gateway PC. It will produce daily summaries from Horizon Branches on Stock Unit positions. These summaries will be used within the HNG-X Data Centre to prepare the Branch Database in advance of branch migration.

22. The package will contain support for Migration menu button(s) and associated migration software packages for manual initiation of migration activity. This will only be activated after all counters in a branch are upgraded, and the migration of the branch has been scheduled.

23. The roll out of the new code base to Horizon counters is independent of the Branch Router upgrades, and can proceed in parallel. However the migration of a branch to HNG-X will not take place until these activities are complete.

7.4 Branch Migration to HNG-X

24. The HNG-X pilot will be rolled out to a jointly agreed set of Branches as per existing practices employed during Major Releases, within an agreed sequence with agreed quality checks on the way.

25. For each branch, a Pre-Migration phase will be activated to transfer the Horizon transactions for each day into the Branch Database as part of batch overnight schedule. It will also cross check the central and branch view of the Trading position daily. Any discrepancies will be alerted, and the new Trading position corrected. The objectives of this phase are to prevent any financial discrepancies occurring at the point of migration.

26. When a branch is scheduled for migration to the new application, the counter migration package will be activated. POL Ref data will enable a button on the gateway PC for the Branch Manager to activate the migration process.

27. When Branch Migration is initiated, the system will check that all counters are connected and ready for migration, and the system will then prevent any further trading at all counter positions within the branch from that point onwards.

28. A Horizon pre-migration report will be produced to show the current office trading position for the branch. It is assumed that this report is at the level of the office snapshot report, and does not need to detail the position of every Stock Unit. From this point on, the Branch Manager does not need to be in attendance.

29. The software upgrade sequence will cause the creation of the current set of all User Names, Roles and associated Stock Units, plus Pouch and T&T barcodes for the branch. The Horizon password details will not be migrated.

30. The counter systems will go into a state to complete the migration sequence later that night. Each counter upgrade will complete and poll to check that all other counters have been upgraded successfully. Failure to synchronise by a set time will cause all counters to revert to Horizon mode.

31. Each counter will be ready to operate in HNG-X mode by 07:00, or will revert back to Horizon by that time.

32. With the exception of the Branch Manager, the individual User accounts will be created in a locked state. There will be an agreed initial password for the Branch Manager which must be changed on first logon. [The details will be agreed post contract].

33. An HNG-X report will be produced when the branch manager logs in to show the equivalent office trading position under HNG-X. The purpose of this is to give confidence to the branch manager that the branch accounts have been successfully transferred across. In the case where a discrepancy is reported, manual corrective action will need to be taken correct the branch accounts. (The pre-migration checks within the batch overnight schedule will help to ensure that such exceptions are minimised).

34. A separate background process will compare the two reports electronically and log the outcome in an event for use by Fujitsu support staff. The event will be categorised as an error to raise an alert if they do not match. This alert enables follow up action to identify and fix the cause of the problem, irrespective of reports to Horizon Service Desk by branch staff.

35. The branch manager will need to unlock the individual user accounts and allocate initial passwords for all the remaining branch staff.

36. Branch staff will Log on using a temporary password assigned by the branch manager, and they will need to change their passwords. The office is then ready to start trading with the new application.

7.5 Regression to Horizon Assumptions and Constraints

37. During the software upgrade process, the system can automatically revert to the original Horizon state. It will do this where pre-conditions are not met, or when failure conditions are detected. This will be synchronised across all counters within the branch so that all counters use the same application.

38. There will be a "point of no return" at the point where a branch starts trading under HNG-X. This point of no return will occur when the Branch Manager confirms that the post-migration report is acceptable. A central post-migration process runs regularly to update management systems on the migration status of each branch. There is no time limit set for the switch the branch from Horizon to HNG-X within the data centre systems from the time that migration is initiated in the branch.

39. It is assumed that branch staff will be in attendance before 10:00 am the morning after migration to start up the new application. If there are any issues with the application migration, there will be a Post Office trainer in Branch and the Post Master will be advised not to contact HSD NBSC. POL NBSC or the Programme Team will contact the branch within 3 working days.

40. Up to the point of no return, Horizon Service Desk staff can manually cause the branch to revert to Horizon. This is provided as an emergency measure in case the branch application has migrated to HNG-X, but cannot start up the new application.

41. After the point of no return, should there be any issues with individual branches, it will only be possible to revert the branch back to Horizon by closing the branch and re-opening as a new branch under Horizon.

42. It is assumed that Post Office would need to handle any changes, arising as a result of the branch closure and re-opening, to other POL systems (POL FS, POL HR, SAPADS) and any Client interfaces.

43. There is likely to be a lead time dependency before the branch can convert back to Horizon. Lead times will be reduced for the first 14 branches of Model Office and Pilot due to the proposal to set up 14 new branches ready to open should they be required.

44. Following such a regression, all User and Stock Unit details would need to be re-created as per a new branch and the new branch would have no visibility of previous transaction data from the old branch.

7.6 Pilot Specific Assumptions and Constraints

45. There is a lead time between the start of the pilot at a specific branch and the loading of transaction history into the branch database.

- The current design assumption is that the transactions will be loaded as part of the end of day process each day.
- The gap between enabling transaction loading into the branch database and the start of the pilot will dictate the extent of transaction history available to the branch.
- This history must go back at least as far as the last branch trading period cut over point, but might need to extend to current message archive period (42 days).

46. The process to regress a branch by closing the branch and re-opening as a new branch under Horizon is only sustainable in low volumes due to the manual steps involved. To be specific, regression of HNGX will only be possible for the 2 Model Offices and the first 12 live branches in pilot. This approach is only proposed to support the case where a specific branch is to be backed out from the HNG-X pilot during the early stages.

8 HNG-X Application Rollout

In addition to the Pilot migration assumptions and constraints, the following apply to the main HNG-X Application rollout:

8.1 Rollout Specific Assumptions and Constraints

1.   Once the pilot has completed, the HNG-X solution will be rolled out to the whole branch estate subject to acceptance, the success criteria being met for the pilot and approval by the Post Office Ltd Release Authorisation Board.

2.   The HNG-X application will be rolled out to all Branches as per existing practices employed during Major Releases, within an agreed sequence with agreed quality checks on the way.

3.   The scheduling of branch migration will need be defined in relation to the Post Office training programme for branches ready for the HNG-X application.

4.   Once the branch has started trading under HNG-X, it will not be possible to revert the branch back to Horizon.

5.   The process to revert a branch by closing the branch and re-opening as a new branch under Horizon is only sustainable in low volumes due to the manual steps involved. This approach is only proposed to support the case where a specific branch is to be backed out from the HNG-X pilot. It is assumed that this capability will not be needed for the rollout phase.

8.2 Training

6.   Training for both Pilot and Rollout is a Post Office responsibility.

7.   The baseline assumption is that no additional functionality over the CTO and Global-user requirements are required for migration training.

8.3 Branch OBC Process

8.   In the initial stages, new branches will continue to be rolled out as Horizon branches, and scheduled for migration to the new application later.

9.   At an agreed point, all new branches will be installed directly to the new HNG-X application.

10.   New counters will be introduced with the same version of the application that is currently being used at the other counters within the branch.

11.   OBC actions on branches would be taken into account in the scheduling of branch migration. This would potentially cause the migration to be re-scheduled. Note that since the branch manager initiates the actual migration, and the migration is overnight, this impact is likely to be minimal.

9 Post HNG-X Application ADSL Changes

The following are the assumptions and constraints from which the migration strategy has been constructed:

1. Branches on ADSL IPStream Office have been migrated to IPStream Max and Home since March 2007.

10 Post HNG-X Migration Decommissioning

The following are the assumptions and constraints from which the migration strategy has been constructed:

1. Once HNG-X Branch Migration is completed, the following Horizon-specific services will become redundant in Wigan/Bootle:

- Horizon Branch-related Services (including Riposte facing agents such as ETU services, Banking Agents – Routing and Grev, T & T agents)
- Horizon Key Management Services (KMA et al.)
- Horizon Reference Data Services
- Horizon VPN Server Access Layers
- Horizon OBC Services (OCMS, ACDB, some SYSMAN2 OBC components)
- Horizon Spare installation Services (BootServer, BootLoader, SYSMAN2 S92/PHU1 Spare Support)
- Horizon-specific SYSMAN2 Services* (NSAT – N/W Service Type Allocation Tool, ADSL migration et al.)
- HNG-X Branch Migration Tools and Reporting
- Other support services (Network Management, RADIUS Server Services and Management etc)
- Attalla cards – these will be removed from the agent platforms and the content destroyed.
- Any secure material should be destroyed, with documented evidence, in agreement with POL, as stated in Section 4.12. of the document DES/SEC/HLD/0010 KM Migration HLD:

2. The decommissioning of servers containing key material will have to be performed in a secure manner such that all key materials are destroyed and made completely un-readable. This also applies to key material held insecure storage and is no longer valid. The current operational practice is that advice is sought from the PO as to the means for destroying key material. The destruction of key materials will therefore be done in collaboration with the PO security team. Many of these services will simply cease when the platforms are shutdown in accordance with a Decommissioning Schedule. Note that the CAW is retained for HNG-X after branch migration is complete.

* Note that some SYSMAN2 Services must be migrated to IRE11 to continue management of HNG-X Branch Counter Estate.

3. At this point any remaining Horizon specific equipment can be decommissioned. This will include:
- Correspondence Servers and Generic Agents
- Any platforms where Horizon has a separate online interface to HNG-X.
- Network Circuits

4. There will also be reference data changes to remove Horizon specific reference data as part of this phase.

5. Legacy environments will be retained in Ireland data centres until NT is removed from the estate. VPN Servers will not be removed from IRE11/19 until NT has been retired from the Counter estate.

6. Removal of legacy Horizon application code and message stores from the Counter estate following application migration will be carried out on a branch by branch basis.

7. Tidying-up in the new data centres, including removal of Horizon crypto support, reconfiguration of dual mode agents.

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11 Incident and Problem Management

The Incident and Problem Management processes required for the Data Centres move and application upgrade will be in line with the existing (BAU) practices employed during the Data Centre migrations undertaken for Major Releases.