

Horizon Programme

Approach to Target Testing Prior to NR2 Release Authorisation Board (RAB)

Draft Paper @ 17th March 1999

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1. Purpose of Paper

This paper explains the Horizon rationale and approach to the 'target testing period' that is planned to take place between the end of MOT and the NR2 RAB. This period starts on 15th March and is planned to end at the RAB on 7th April 1999. The intent of this period is to clear the faults arising from MOT/E2E which are considered by the sponsors as essential to be resolved before entry into the period of live running. Live running is planned to commence on 12th April with the period of migration of the existing 200 POCL offices that are running Release 1c. Following the data centre migration weekend (scheduled for 8/9th May), the Programme enters the formal period of live trial from 10th May.

There are a number of questions that need to be addressed in setting out the approach to target testing. These are as follows:

1. *Can the required incidents be corrected and retested in the available time ?*
2. *Is the target testing phase adequate before entry to live running (rather than a further full cycle) ?*
3. *Can the sponsors be confident that the correction of these incidents will not destabilise the system (given the restricted regression testing that can be undertaken) ?*
4. *Will the sponsors find acceptable (at least for entry to live trial) the business impact of those outstanding incidents that are not cleared by target testing, and agree to them being placed on the KPR ?*
5. *Impact of fixing and testing during live Run*

With regard to the last question the sponsors will also need to be considered whether any necessary user guide changes or procedural workarounds be implemented in time as a result of placing items on the KPR. They will also need to be confident that acceptance can be achieved on the basis of the solution that is delivered for live trial.

For a successful RAB, the answer to each of the above questions must be 'Yes'. If the answer to any of them is 'No' then the current plan for the delivery of the POCL and

Child Benefit Programme stream into national rollout will meet with delay and this will have a knock-on effect onto the multi-benefit stream as well.

Although a good understanding is already available of the results of the MOT/E2E testing the full analysis and draft closure reports will not be available until about the 19th March. As more information becomes available the details of this assessment will be updated accordingly.

It is important to both POCL and CAPS, however, to establish as soon as possible whether the current planning assumptions are still valid following completion of MOT/E2E. This paper therefore sets out an assessment of the adequacy of the target testing approach and whether this will support the current planning assumptions.

2. Status at End of MOT/E2E Run

The status may be summarised as follows:

- Both of these cycles ran day-for-day without serious operational delays
- All planned test conditions were covered by both CAPS and Horizon with a few minor exceptions
- In parallel to MOT/E2E two other parallel POCL test streams, Live Reference Data Proving and Migration Pre-proving, have completed successfully with no outstanding faults that require to be fixed before the RAB
- The witnessing of outstanding incidents from previous cycles showed a high success rate (187 passes out of 198 test incidents)
- There are currently 8 high priority incidents which are essential to be fixed by the RAB and for entry to live trial
- There are approximately 130 medium priority incidents which are defined as not necessary to be fixed for the start of live trial but need to be addressed prior to national rollout
- The Technical & Security Testing (TS&T) phase is now in regression testing and there are currently 22 incidents outstanding which are due to be witnessed before the RAB
- There are currently 94 items on the KPR but these are largely low priority problems and to date there is a provisionally agreed position with the sponsors on about 60 of them with no major issues outstanding. The current KPR excludes those incidents from MOT, E2E and (TS&T) which will not be resolved in target testing.

Pathway have informed us that all high priority incidents are or will be available for target testing. The position on medium incidents may be summarised as follows:

- the review and rating of these incidents has involved the CAPS and Horizon tests teams, Horizon Product Assurance, the POCL (end-to-end) Co-ordination team, and BA validators and auditors. They are still to be confirmed with the POCL Business Assurance team
- the review to date has determined that each of these incidents in isolation is not critical for the RAB (which it is why it is medium)

- the cumulative number of these incidents does however raise a concern and the assessment teams would prefer to see a significant number (approximately 60) of them cleared before the RAB
- Pathway have been progressively fixing these more important medium incidents during MOT execution and currently 57 of these 60 incidents will be available for target testing (the other 3 are still in investigation)

It must be stressed that the review process classed medium incidents as not essential for live trial. Clearly it is desirable that a number of these should be fixed and it is also clear that fixes will be available in time for target testing. But the existence of numbers of incidents in this category is not in itself an argument for not entering the live trial.

BIT
pinpoints
from
regression
run.

The following sections address the key questions raised in section 1 above.

3. Target Testing Approach

The target testing phase will be adequate to retest the current list of high and medium priority incidents for the following reasons:

- The target testing scope and content have been specifically developed during the execution of MOT/E2E to test these incidents
- As noted above nearly all the incidents already have a Pathway fix
- There is only one significant area of functionality where there is a 'cluster' of related incidents, which is BES fallback, and this will be a major area of focus in the target test
- Given the way that reference data is used to apply generic processing to individual products it is unnecessary, given the evidence of previous runs, to run a wide range of products in the target test
- Using four offices and a logical 12 day cycle will provide the required test coverage from the counter through to the POCL systems
- Test resources will be allocated to each office and each 'office team' will have to clear on average 4 or less incidents per day
- As limited counter transaction volumes are required to prove these incidents the 12 day cycle can actually be run within 7 days (i.e. 2 or more 'end-of-day runs can be compressed into a one actual day)
- The 12 day cycle will be sufficient to identify any end-to-end financial integrity errors with TIP
- All mandatory reports will be run in each office
- A cash account will be produced for each office
- A 3 week cash account will be run
- Given the evidence of the MOT run the current success rate of Pathway fixes is 187 out of 198 retests (around 95%). This suggest that there may be around half a dozen incidents in target testing that may need a refix and retest. Depending on when they are found during the target test there will be 1 to 2 weeks in which to resolve them. Experience indicates this should be achievable. There is of course some risk that target testing may not resolve all the faults

- The only 'module' which is excluded from the target test is OBCS as there are no incidents here requiring retest and no known regression issues.

4. Adequacy of Target Testing (versus A Further Cycle)

The view of the Horizon and POCL test teams is that a further full cycle is not necessary for the following reasons:

- while there have been up to 200 incidents raised this should not obscure the fact that the overall system is running well enough in their view to start a live trial phase, given resolution of the specified target test incidents. (This is evidenced by the low number of high priority incidents that have occurred and the number of test conditions that were proved)
- all the key transactions and reports are now working and the interface files are stable
- the counter system is performing satisfactorily in the Usability Trial in Twickenham
- the incidents are spread through this large system and are typically localised issues with only BES fallback still showing a cluster of problems
- the time and effort and delay of a further MOT and E2E run is not worth the limited additional value that will be obtained from it
- the number and severity of CAPS related incidents clearly does not require a further full cycle from their side



5. System Stability

There is always a risk that the fixing of errors ~~test~~ will introduce new errors. *From the Horizon perspective the following factors have been taken into account in deciding that only a limited amount of regression testing will be necessary:*

1. The majority of faults that have emerged in MOT have not been due to regression type failures but to the uncovering of generally more detailed errors that had been obscured in earlier runs. There are particular examples of this in the areas of:

- TIP file contents - complete checks now undertaken in MOT of all field contents
- Counter reports - significant problems have been removed which have revealed some less important discrepancies
- Stock unit and cash account balancing - now these are working in terms of financial integrity a number of lower level faults have become clear

2. In addition a number of the more significant incidents (about 20) in MOT arose in the 'newer' areas of the system, specifically:

- BES fallback which was only introduced in MOR3 and which appeared still had some outstanding problems at the end of pre-proving which were not cleared fully for MOT
- Training mode which has been integrated for the first time in the MOT run although it had been successfully run in 'standalone' mode

3. Horizon should take account of Pathway's own regression runs which are being conducted in parallel e.g.

- Pathway have been regression testing fixes in the BIT environment as they have been produced during MOT (and will continue to do so throughout the period of live trial)
- Pathway will be running a specific regression test including all target test fixes between 16th and 23rd March. (There will be 7 different environments running tests during this period)

Given the above considerations the Horizon team do not believe that the issue of regression would be best addressed by another full cycle of MOT and E2E. A preferred approach would be as follows:

- to complete the target testing as discussed above
- to seek RAB approval on 7th April to proceed to 1c to NR2 counter migration on the target date of 12th April
- to continue with BIT regression runs in April
- to undertake the CAPS 3.5/NR2 regression test in April as planned which will enable CAPS to continue testing with Pathway *and a 1c one in May,*
- to use the start of multi-benefit testing in April to continue the wider proving of the system
- to recognise that the live experience of 1c to NR2 migration between 12th April and 7th May will provide a better end-user view of system quality and performance and that this will be evaluated before undertaking the datacentre migration and the start of the live trial

detailed discussion

6. Agreement of Known Problem Register

It should be noted that the current KPR and the incidents from MOT and E2E have already been widely reviewed, as noted above, and it is not expected that major differences in assessment will arise in the next week from those already made on these incidents. Therefore although there is a risk that additional incidents could be re-prioritised for fixing before RAB approval it is believed this risk is manageable.

All incidents that are not cleared in target testing will be proposed for inclusion in the KPR. It will be necessary for the sponsors to agree the business impact of these items and confirm the decision to exclude them from target testing. They will also need to agree any procedural workarounds that can be delivered in time for the live trial.

BA have already reviewed the incidents that have arisen in the POCL domain for any knock-on effects on BA. This has not raised any significant issues.

A full review is planned from Friday 19th March to Tuesday 23rd March of all proposed KPR items. Any significant issues that arise from this review will be escalated to the Horizon Programme Director.

Production of cards on cosmetic change to names :-

7. Next Steps

Over the next few days the following steps are planned:

- Complete the analysis of MOT/E2E and draft the closure reports
- Complete the analysis of the incidents by functional area to highlight any potential priorities for regression testing
- Confirm the list of faults for target testing
- Perform the full review of the proposed KPR
- Confirm and agree the detailed test plans prior to RAB and prior to data centre migration and live trial