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Bringing Technology to Post Offices and Benefit Payments

ESCHER DEPENDENCY - AN ANALYSIS

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1. PURPOSE

1.1. This paper seeks to provide an analysis of the Escher Dependency risk in the light of ICL Pathway's recent responses on the "*Strategic Risk - Escher Dependency*". It is based on the original risk documentation from the evaluation phase but draws heavily upon Product Assurance Group's knowledge and experience of the subsequent ICL Pathway development activity; it should therefore should considered as our view on the risk rather than being definitive.

1.2. The report is structured around five key areas where ICL Pathway's response appears to fall short of providing an adequate mitigation of the overall Escher risk.

1.3. Nothing contained within this document shall be deemed or construed as affecting existing contractual obligations between ICL Pathway, the DSS and/or POCL.

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2. BACKGROUND

2.1. One of ICL Pathway's key subcontractors is Escher Group Ltd, a small software house based in Cambridge, Mass., USA. Escher's products form the basis of the ICL Pathway office and TMS solution, providing both underlying Riposte middleware and various software applications for use in the office (including the office Desktop and the Benefit Encashment Service applications).

2.2. During the evaluation stage prior to award of contract, a number of Risks were raised regarding Pathway's dependency on Escher, the relationship between the two companies and the Riposte product itself; as part of the risk process, Pathway responded to these risks and their responses were taking into account in the evaluation.

2.3. The risks raised were as follows:

(a) *size of Escher* - that Pathway were totally dependent on a very small US based company, and that only a very small number of people had in depth knowledge of Riposte (Risk PWY002).

(b) *contractual relationships* - that the contractual relationship between Pathway and Escher was unclear, that Pathway had little direct influence over the development of Escher products, and that communication between Escher and Pathway appeared poor (Risk PWY057).

(c) *Riposte is unproven* - that its reliability and scaleability to support the POCL network in unproven (Risk PWY009).

(d) *future development path for Riposte* - that Pathway might not be able to maintain a development path for Riposte in line with POCL's needs (Risk PWY059).

2.4. As a result of the Strategic Review of the programme led by PA Consulting, further correspondence on the "*Escher Dependency*" risk has been taken forward in correspondence between PDA (Peter Crahan) and ICL Pathway (John Bennett). It is as a result of this correspondence that this paper has been produced to re-examine the dependency on Escher in the light of the recent Pathway responses.

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3. ESCHER APPLICATION SOFTWARE

3.1. ICL Pathway's response concentrates purely on "core Riposte" (which I take to mean the Messaging Middleware and the Desktop/GUI), and fails to take account of Escher's involvement in other aspects of the system.

3.2. In particular, in John Bennett's letter to PA Consulting dated 5th December, he states that "*The development of RIPOSTE based applications is entirely the responsibility of ICL Pathway, including maintenance and support*". This statement is at odds with the contract, where in POCL Agreement, Schedule B1 the status of *BES Counter Application* and *OBCS Counter Application* are clearly stated as "*Third party (An Post/Escher)*" rather than "*CONTRACTOR*". Note this is the same status as afforded to "*Riposte*" in the very same schedule.

3.3. Perhaps more pertinently, whatever the exact interpretation of "*responsibility*", ICL Pathway's assertion does not fit with our experience to date on a number of counts, for instance:

- we know that the BES application has been developed by Escher, in Boston, based originally on the An Post benefits payments application; experience to date has shown that changes to BES appear to need Escher involvement, suggesting that it is still managed by Escher.

- the access control functionality in EPOSS has been developed by Escher; you will recollect the problems that existed in Release 1c with non-compliance with requirements in this area (leading to the infamous 19 issues), where it became apparent that the necessary modifications were to Escher code.

3.4. *Recommendation: We should request that ICL Pathway clarify the ownership and support arrangements for each of these applications, including stating which organisation is deemed to hold the "master" version.*

4. ACCESS TO ESCHER DESIGN DOCUMENTATION

4.1. ICL Pathway's response majors on "*access to source code*" as the fallback arrangement in case of loss of support from Escher; although in a worst case scenario access to 'C' source may be better than nothing as a means of effecting simple bug fixes etc, it is no replacement for a proper set of design documentation for the products - both core Riposte and any Escher written applications. I note that ICL Pathway have made no comment regarding possession of or access to such documentation for the Escher products.

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4.2. Based on experience, I would suggest that our greatest exposure relates to the Escher-written applications rather than to core Riposte[1]. We have found it very difficult to get any design documentation from ICL Pathway relating to the BES application, primarily we believe as little has been provided to ICL Pathway by Escher; it would appear that ICL Pathway have had to resort "*reverse engineering*" in an attempt retrofit design documentation (eg message specifications) to the delivered product. One can only surmise that ICL Pathway's contract with Escher does not support the provision of full design documentation.

4.3. Although ICL Pathway may by now have gained an adequate understanding of the Escher applications to perform development activities, and this may be documented internally, it may be no substitute for the "real thing" when major problems arise.

4.4. *Recommendation: We should request that ICL Pathway describe what level of Escher documentation, other that source code, they possess on the Escher-written products, and ask them to demonstrate that this is sufficient to enable them to support the product if required.*

4.5. Although ICL Pathway may take the line that this is "*confidential between ICL Pathway and Escher*" or that this cannot be revealed for IPR reasonsld recommend that we seek visibility of such documentation to confirm its suitability. We would expect ICL Pathway to demand that this be performed under NDA and probably would not want to involve individuals from outwith the sponsor organisations, but we would not see this as a problem[2].

5. PATHWAY'S KNOWLEDGE AND EXPERIENCE

5.1. Although ICL Pathway claim to be responsible for the development of applications, it is still clear that they are heavily dependent on Escher for support and advice, and that at times they require significant Escher involvement to assist with the development of applications.

5.2. For example, we know that the original EPOSS application was shipped out to Boston last year following the emergence of fundamental problems with the product as developed in Feltham, and that a significant amount of work was performed by Escher on that application before it was returned to the

[1] Note that applications are far generally more susceptible to ongoing change (due to evolution of business rules, experience from live running, etc) than the core product which is largely application independent and would not expect to subject to the same instability over time.
[2] Suggest this be performed by someone internal to the programme and known to both Pathway and Escher.

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UK. This suggests that ICL Pathway were not in a position to manage without Escher support, and recent indications are that ICL Pathway are still in learning mode regarding the underlying functionality of EPOSS, suggesting that they are still not in a position to fully support the application in-house.

5.3. From our limited visibility, it appears that ICL Pathway still do not have the necessary skills or experience in sufficient quantities to be able to fully "go it alone" with the development of application software, despite their stated intention when the risk was first raised to set up a "European Support and Development Centre". Although their ability will grow over time, it would appear they still have some way to go, and we should note that ICL Pathway is also heavily dependent on contract staff who may suffer a high rate of churn.

5.4. This situation is probably inevitable given the nature of the ICL Pathway solution. We would have more confidence, however, if there was an admission of their dependency on Escher and better visibility of the mitigations.

6. FUTURE RELEASES OF CORE RIPOSTE

6.1. Although we would not argue with the position taken by ICL Pathway in their letter regarding core Riposte, we should be aware that the current version of Riposte (5.3) does not provide the solution required for full rollout of the contracted Pathway service nationwide.

6.2. To provide the solution originally proposed, Pathway are still dependent on Escher to provide version 6 of Riposte (also sometimes known as Riposte 5.4) which introduces the "Wholesale Broker" and adds full scalability[3] through a level of indirection above the correspondence server level.

6.3. Although Pathway have contingency arrangements (and indeed, we understand that these will be used to support New Release 2) using multiple discrete clusters of correspondence servers, the ability of this to scale (manageably) to full national rollout volumes remains unproven.

6.4. The point here is that Pathway are dependent on a further, major release of core Riposte from Escher - in other words, they are not yet into just a "*support*

[3] We understand that earlier versions of Riposte had a limit of some 5400 terminals per cluster; although this hard limit has apparently been removed in Riposte 5.3 it is not practical or desirable to host the full POCL network on a single cluster. Riposte 6/5.4 will, we understand, introduce the ability for Riposte to split the office population across multiple clusters.

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services" phase. We have insufficient visibility to know when this release will be made or how it fits in with Pathway's plans, but it demonstrates Pathway's ongoing dependency on Escher for development as well as support.

6.5. *Recommendation: Seek greater visibility of Escher's development plans for core Riposte and Pathway's requirements for future releases of Riposte. Seek full information on scaleability constraints of each Riposte release.*

7. PATHWAY'S ARRANGEMENTS WITH ESCHER

7.1. ICL Pathway's response contains a number of assertions regarding support capability, contractual arrangements and access to source code, but provides few details as to exact nature of these arrangements

7.2. Given the nature of the risk, we may wish to verify ourselves that the arrangements are valid and that they do indeed adequately mitigate the risk.

7.3. For example, ICL Pathway states that they have copies of the source code for core Riposte, but we have no details of their legal rights with respect to this; there is little point in ICL Pathway having a copy of the source code if they would be subject to an injunction from Escher if ever they tried to use it. Escrow arrangements usually have strict conditions attached, and although these may cover, for instance, the case where Escher ceases to trade, they may not mitigate risks relating to a contractual dispute or other breakdown of relationship between Escher and ICL Pathway.

7.4. *Recommendation: Seek further detail of the contractual relationship with Escher, and in particular the precise arrangements which are in place to mitigate their dependency. This should include their rights regarding access to and use of the source code, and should seek evidence of the completeness and currency of any escrowed source code.*

8. CONCLUSION

8.1. We believe that ICL Pathway are still highly dependent on Escher Group Ltd and we have little evidence that this dependency has been significantly reduced since the award of contract - indeed, the dependency still appears to greater than would have been expected based on Pathway's original risk responses.

8.2. Use of third party software in a project of this nature is not unusual, however the risks need to be appropriately managed by the integrator of the system. Although this risk was identified by BA/POCL at an early stage in the

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programme, there is still no evidence available to us to show that it has been adequately managed or mitigated.