EBS Rollout bei H3G - Ganzheitliches Requirements und Test Management

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Introduction

In this paper we present the entire ALM for a concrete Oracle ERP EBS implementation in Italy in a conglomerate internal implementation from RE down to testing. The paper explains how the Business Requirements collected in HP Quality Centre have been mapped against the business process models for the to-be solution, composed in the Horus business process modelling tool, and how information is synchronized via a generic interface between both tools to keep testing-relevant information up-to-date.

This integration is sought, as during testing the processes are condensed in Business Use cases (BUC) that have the actual requirements embedded. In order to conduct tests and ensure complete requirements mapping in the process, and being able to conduct process adaptation and have according process test coverage an adapter is developed that allows updating testing requirements based on process changes developed in Horus.

Business setting and Partner description

H3G, IOVIO and PROMATIS currently form an alliance to facilitate for the actual implementation and migration to a shared instance of Oracle EBS. This Global shared instance (GSI) incorporates nowadays the subsidiaries of the global acting Mobile network Hutchison 3G with the Operating Countries (OPCO) Austria, Ireland and the UK. The country the alliance was forged is the Italian subsidiary that is now running on a national instance of Oracle 11i. The GSI is currently under process to be migrated to Oracle R12.2.4, while for the Italian OPCO the RE is ongoing and now in the stage of Detailed Design.

H3G as brand is a wholly owned subsidiary of Hutchison Whampoa Limited (HWL) corporation that is stock listed at Hong Kong stock exchange. H3G is one of the six core areas of HWL. The telecommunication sector is in general spread across Asian network operators (Indonesia, Vietnam, Sri Lanka) and the European subsidiaries that are consolidated into the 3 Group Europe with operations in the OPCOs mentioned above plus Sweden and Denmark. H3G Austria is currently hosting, running the operations and performing the actual RE for all OPCO in an operational unit of Global Delivery Team.

IOVIO is recognized as industry leaders in the field of ERP testing. IOVIO have experience of working to secure quality in some of the largest ERP implementations in the world. With professional services focused on improving the effectiveness of testing, as well as improving the efficiency of your software development lifecycle, IOVIO can assist organizations in detecting defects earlier, reducing the cost of testing, and going to market faster. IOVIO and H3G have been working together also during the migration of the UK OPCO to the GSI during 2013. During this involvement IOVIO implemented a complete E2E technological stack for test automation based on HPQC and proprietary

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accelerated test automation solutions (ITAS/Agility). PROMATIS is close-partnered with the national and international Oracle organization and is therefore a pioneer on the Oracle market. The corporate partnership with Oracle ensures up to date product know-how at any time, which is provided demand-meeting to the customer by certified PROMATIS specialists. Superior business processes and future-safe information systems are the goal of PROMATIS turnkey Oracle solutions that are realized in customer order. A substantial success factor is the owned procedure model Integrated Quality Process Model (IQPM™) with project-type specific flavors and the ability to adapt without problems to customer standards. The usage of IPQM includes also the Proven Horus Methods™ to ensure for efficiency and quality, as well as Best Practice reference solutions as well as the use of Web 2.0 technologies in Social BPM. H3G Austria and PROMATIS have been working together already during the foundation years of the Austrian OPCO.
The Key driver for the movement of the Italian OPCO to the GSI are the intended consolidation benefits in the IT infrastructure, process harmonization across the different OPCOs on the GSI as well as simplified reporting strategies.

Requirements Engineering and testing as parts of the actual ALM
Based on an IPQM approach the partners to the Italian implementation as well as Italian OPCO Business Process Owners (BPO) agreed upon during the initial stages of the project that the to-be process for the overall RE and testing will be conducted based on Business Use Cases (BUC) that are modelled in the Horus Application for process modelling, and that testing is to be conducted in the industry-standard test management tool called HP Quality Center (HPQC).

For now these two applications were run as distinct not combined entities, and they did not have any past cooperation history. Due the internal logical linkage between RE for the to-be solution in Horus and the actual testing it was envisage that on a longer term basis for test based changes to processes a manual process for transferring changed BUC to HPQC from Horus is an unviable approach. This is due to the very well-known fact that all too often during testing actual requirements are collected, and thus also the matching of requirements into BUCs documented in HPQC must be changed to have a complete testing coverage of the to-be solution.

Logically therefore it was agreed among business participants in the project, project management, and the actual functional teams that business requirements would be mapped against actual process steps in the Horus applications on a lower level. This process steps are then consolidated into BUCs that represent the actual logical and physical test-cases that will prove that the to-be system is capable to cover all requirements collected during the earlier phases.

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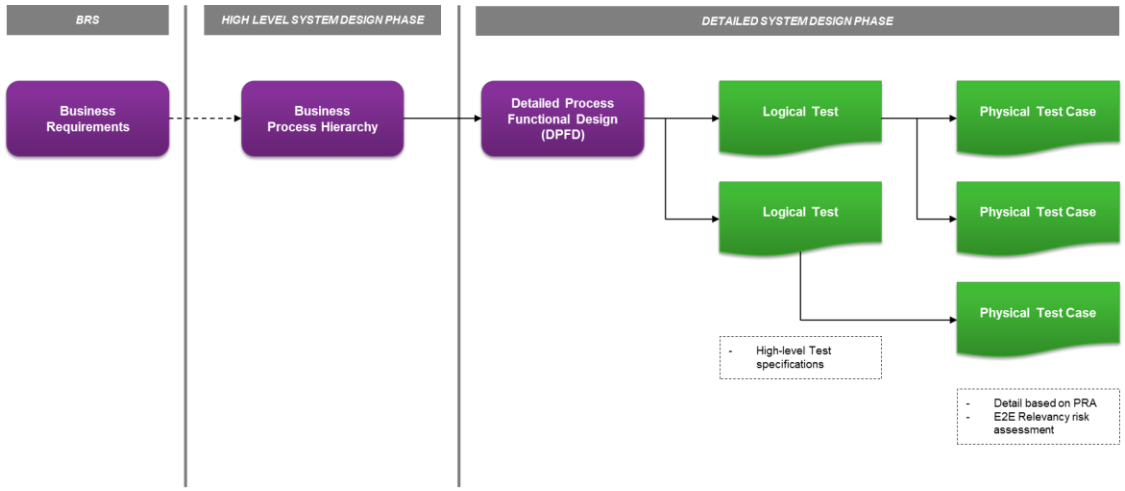

Fig. 1: Tracing of Business requirements between Test and Solution Design Phase

As a consequence of the logical fusion of Horus and HPQC thus the different modes of working of the applications had to be bridged. For Horus this means that a new object is introduced that allows identifying actual BUCs that are used in HPQC as containers for the requirements. This object type is as an attribute available to the user in Horus, and is used on the database to identify all process steps that belong to the same BUC. On the side of HPQC there is need to be able to allow importing the process steps of the to-be solution that then maps the requirements to actual testable units.

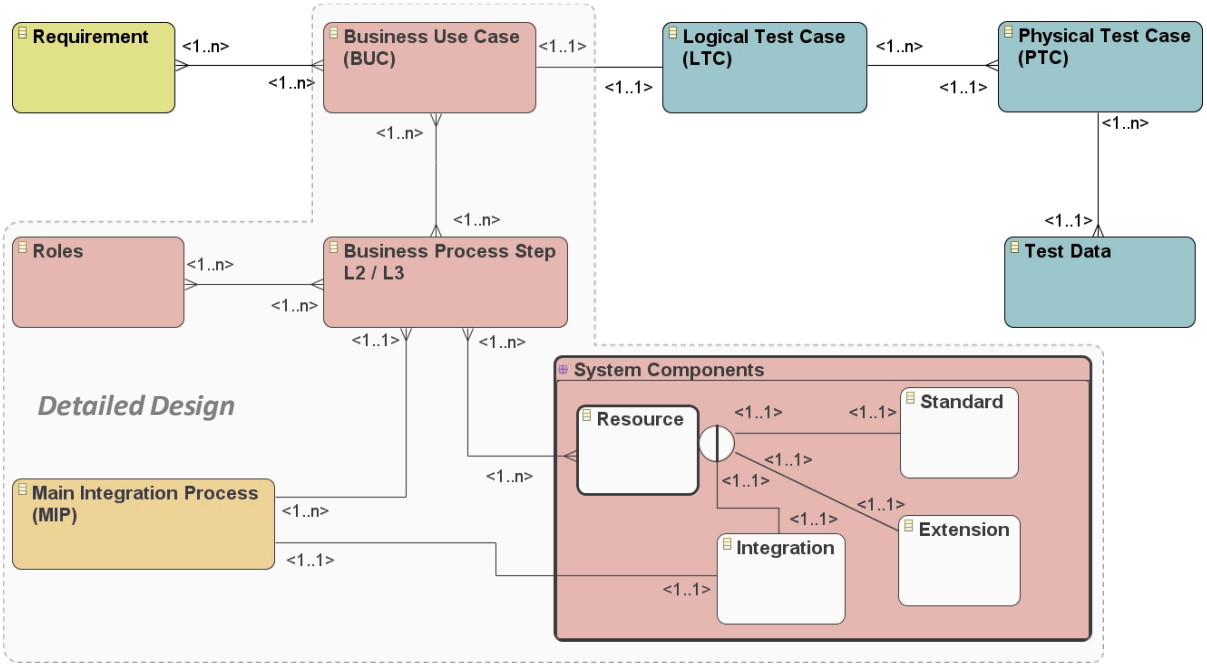

Fig. 2: ER mapping between Horus objects and HPQC entities

Innovation development by Knowledge Integration

Achieving the actual traceability of requirements across the two applications used for testing as well as the definition of the to-be processes is thus not only a technical task. It required that during the definition of the actual testing strategy as well as the to-be system both teams learnt to think along the object models and relations of the other team. This was conducted by the means of knowledge

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integration among the teams. Also this allowed the identification of the solution to have an semi-automated interface between Horus for the definition of the to-be system, as well the importer into HPQC.

During the Detailed Design of the system landscape for the Italian OPCO PROMATIS and IOVIO developers developed and implemented in the background an interface that allows the creation of test-cases in the HPQC based on the process models created in Horus. As indicated above the main issued anticipated that partially drove the actual development was the anticipated need to update process testing, based on changed requirements during system and User Acceptance Testing.

The authors consider this an innovation to all partners, as this allows for the future a more aligned and better integration testing and RE process. Project experience has shown that often testing is considered an necessary evil from functional, while thereby completely overlooking the logical connection between testing and good solution development. This becomes transparent in Fig. 1, where it becomes apparent that in the actual holistic consideration of testing and RE they represent the two sides of the same coin. Processes, irrespective of the application used for modelling, always have the tendency to be more oriented to logical test cases while requirements always consider a specific case. From this perspective the testing strategy developed for the solution in Italy it was differentiated into a layered approach.

Testing logic for process oriented RE in holistic perspective

As stated above it is intended to have for the testing of the to-be solution a logical connection between test cases modelled in the HPQC, and the business processes modelled in Horus. In Fig. 2 it was shown how the overall process contains the actual BUCs, and these contain the actual RE refined demands from the BPOs.

To enable the testing along the BUCs as logical test-cases, as shown in Fig.1, and the embodied physical test cases embodying the requirements, a differentiated technological infrastructure for ALM is used. This is shown below in Fig. 3. Accordingly the actual Business Demands are stored and mapped into the process modelling tool of Horus Business Modeler. From there the actual BUCs are interfaced via the semi-automated into HPQC. From there the actual EBS system is tested automatically by the ITAS Accelerator and manually by functionals and Key-Users.

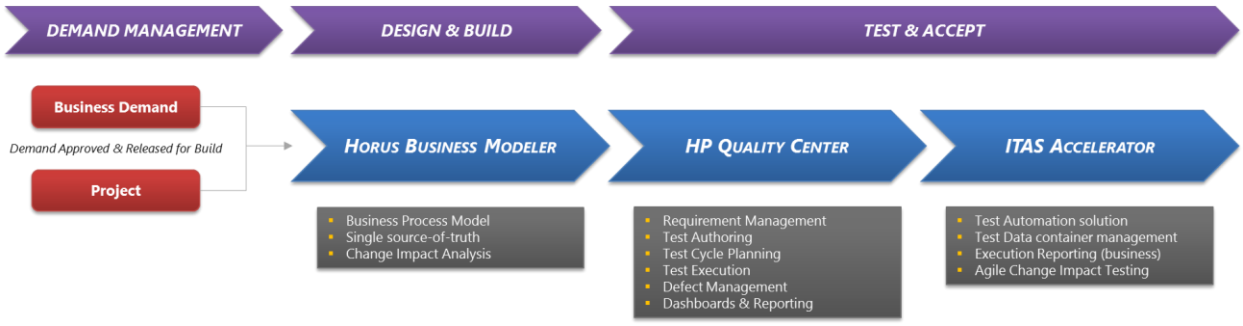

Fig. 3: ALM infrastructure in a tooling perspective

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