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QHIC SYSTEM TEST and SIT COMPLETION REPORT

Date: 27 April 2009
Status: Final

This document to be reviewed by

IBM

QHIC

About this document

Location : G:\...

Revision History

Version	Date	Author	Change Description
0.1	13 Jan 09		Initial Draft
0.2	28 Jan 09	L Raina	Second draft with final figures as at 27 January.
0.3	16 March	M. Dymock	Reviewed and updated draft, provided as interim TSR for information of key stakeholders on scope of first phase of system test and SIT.
0.4	6 April	M. Dymock	Updated with latest results from system test and SIT, including the following Phase 2 system test results: - HR FI (EOM Accruals, Staff Movements and additional ALCS); - Workbrain CRs – Data Extract Utility, BAD Balance updates; - E2E Regression.
0.5	20 April	M. Dymock	Version updated for Directorate review as at 20 April.
0.6	24 April	M. Dymock	Minor updates after KJ Ross audit
0.7	27 April	M. Dymock	Ready for review.
1.0	5 May 2009	M. Dymock	Accepted

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1. Introduction

1.1. Purpose

This document is the QHIC Test Completion Report for System Test and System Integration Test. Its purpose is to provide an overview of the status of system test and SIT as at 20 April 2009 against the exit criteria and to seek approval for completion of these activities, noting resolution plans for any outstanding issues and defects.

1.2. Scope

The following test phase results are in scope of this Test Completion Report:

- Functional Test – SAP and Workbrain components, including approved CRs;
- Internal Interfaces – between SAP and WB, both directions;
- End-to-End System Testing of the HR Payroll solution i.e. SAP-WB-SAP;
- Security Testing (User profile access) – SAP and Workbrain;
- System Test Phase 2 (including Solution Automation);
- System Integration Test – Interface only testing.

The following test phase results are out of scope of this report:

- Parallel Payroll Test (PPRT results reported separately)
- Payroll Performance Validation (PPV results reported separately);
- Stress and Volume (managed by Corptech Technology Services);
- External Application testing (managed by QHEST and Corptech Payroll Bureau);
- UAT (managed by QHEST).

1.3. References

The following documents have been referenced while creating this document

S.No	Document Name
1	QHIC Requirements Traceability Matrix V0.9
2	QHIC Scope Definition V1.0
3	QHEST Workaround Register
4	Sev 3 P1 and P2, P3 and P4 spreadsheets (QHEST)

1.4. Definitions and acronyms

Term	Description
E2E	End to End (SAP-WB-SAP integration testing)
ESP	Legacy System used by QH to record Rosters and Timesheets.
FDSS	Finance Decision Support System
HRDSS	Human Resource Decision Support System
IBM	Prime Contractor – International Business Machines.
IMS	Incident Management System
MTP	Master Test Plan
MVS	Multi View Scheduler – Workbrain Component
PDR	QHIC Process Definition Report
PPRT	Parallel Payroll Testing
QH	Queensland Health
QH SSP	Queensland Health Shared Service Partner.
QHEST	Queensland Health Enterprise Solution Transition team, the team established to liaise between the Prime Contractor, IBM, and QH SSP to facilitate a successful implementation of the QHIC solution.
QHIC	Queensland Health Implementation Continuity The name used for the project to implement the interim HR/Payroll and Rostering solution of Queensland Health.
SIT	System Integration Test
SDA	Solution Design Authority
ST	System Test
SO	Standard Offer
UAT	User Acceptance Test
WB	Workbrain
WoG	Whole of Government

2. Executive summary

The QHIC Project Team is recommending exit from the System Test and SIT phases of the project based on status against the relevant exit criteria and pending acceptance of suggested follow up actions contained in this Report.

As at 27 April, all planned system and system integration tests have been executed, as per the table below, with 99.9% passed. The 38 incomplete test cases are blocked by Severity 3 defects only.

Test Phase/Sub-phase	Total Tests	Attempted	Passed
System Test - Workbrain	37059	37059	37057
System Test - SAP	904	904	904
SAP-WB Interface	408	408	408
WB-SAP Interface	1791	1791	1791
End to End (WB-SAP-WB)	306	306	302
"Baseline 4" System Test	85	85	85
System Test Phase 2	1062	1062	1030
External Interfaces	118	118	118
TOTAL	41733	41733	41695

The summary open defect status for system test/SIT is as follows:

Assigned Team	2 - Major	3 - Minor	4 - Cosmetic	TOTAL
Build	0	31	5	36
Business	0	1	0	1
Test	0	10	0	10
TOTAL	0	42	5	47

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The following interfaces have been tested during SIT (Interface) testing and have been signed off by the receiving team. This SIT signoff means the file has been successfully sent to the receiving team (either Corptech or QHEST) and been verified for format and content. Further testing will be conducted with third party stakeholders as part of External Application Testing, running parallel with UAT.

- o HR DSS
- o FDSS
- o IMS
- o Deductions (Payroll bureau)
- o ATO Empdupe and TFN files
- o Payslip advice file
- o Payment Summary file
- o EFT (bank) file
- o QSuper file

2.1. Status against System Test/SIT Exit Criteria

The following table contains the status of the exit criteria for both system test and SIT, as outlined in the Master Test Plan.

Exit Criteria	Status
100% of High Priority test cases executed or exceptions signed off by QHEST.	All test cases executed, status is outlined below. No system test or SIT cases currently blocked by a Severity 1 or 2 defect. An agreed test scope change was made during E2E and this is noted in Section 3.2.4.
All Severity 1 and 2 defects resolved.	No Severity 1 or 2 defects remain outstanding from system test or SIT.
All deliverables are completed and approved	Only test deliverable due thus far is the MTP, which was delivered and accepted in August 2008. An update to this is pending. Test cases and results are work products to be delivered on 27 April.
All severity 3 & 4 defects outstanding have documented workarounds (agreed with QHEST and QHIC Project Team), and an agreement reached on when they will be corrected. Business Stakeholders agree that any outstanding defects do not impact the production release.	<p>All Sev 3s and 4s have been prioritised by QHEST and a resolution date provided by the QHIC project team. Latest resolution date is 6 weeks into UAT, from which time production impacts will be assessed for any Sev 3s.</p> <p>A meeting was held on Thursday 23 April to review all open Sev 3s and their priority, with representatives from QHEST, SSP and QHIC. It was agreed that, assuming stated resolution timeframes below were adhered to, UAT start would not be impacted. For further information, refer to the Sev3 P1 and P2, and P3 and P4 documents [4].</p> <p>The proposed resolution timeframes for Severity 3 defects are:</p> <p>Priority 1 – 2 weeks from the start of UAT Priority 2 – 4 weeks from the start of UAT Priority 3,4 – 6 weeks from the start of UAT</p> <p>These target timeframes are provided on a best endeavours basis. Sev 1 and 2 defects raised in UAT will be given priority over these.</p>
System Test Completed or Interim System Test Summary Report Produced	This document.

3. Testing results

3.1. Testing scope

The following items were in scope for system test and SIT. Testing was broken down into components and each of these were verified individually before being brought together for E2E testing, which involved testing the processing of various employee actions and changes within the QHIC SAP/WB solution.

3.1.1. System Test

System test was broken down into the following functional components:

- SAP – administration and organisational management
- Workbrain front end, including MVS and timesheets
- Award Calculation
- Leave accruals
- Leave taking
- Leave validation
- Schedule compliance
- SAP security (user profiles)
- WB Security (user profiles)
- Internal interfaces – SAP to WB and WB to SAP
- End to End scenarios across SAP-WB-SAP;
- Baseline 4 (ALCS plus approved CRs)
- EOM Accruals CR
- Staff Movements CR
- Solution Automation – interfaces and payroll processing
- Workbrain CRs - Data Extract Utility and BAD balance updates
- Issue/Defect 32
- E2E regression testing

3.1.2. System Integration Test (Interface Only)

System integration testing (interface only) verifies that the following interfaces can deliver files through the agreed mechanism and that these files are correct in content and format as per the agreed interface specification. SIT is followed by the External Application Test phase, in which the application/interface file owners run their own tests to confirm the interface/file meets their requirements. This phase will be managed by QHEST and supported by QHIC, through the provision of additional files as required. The Corptech Payroll Bureau will be responsible for conducting External Application Testing for the bank file, payslip printing and deduction disbursement files.

- Queensland Health Application interfaces
 - IMS

Status: Final

- HRDSS
- FDSS
- Payment processing files
 - EFT (Bank File)
 - ATO EMPDUPE file
 - ATO Payment Summary Print file
 - Payslip Advice Vendor file
 - QSuper interface
 - Deductions files

3.2. System Test Results

3.2.1. Workbrain System Test

Component / Module	Total Test Cases	Test Cases Run	Test Cases Passed	Failed/Blocked	Comments
MVS, Availability Management	26	26	26		
Leave Taking	2191	2191	2191		
Leave Accrual and Deduction	129	129	129		
Leave Validation	518	518	518		
Leave Accrual Exception	145	145	145		
Forms	7	7	7		
Time and Attendance, Core Elements	11	11	11		
Security	20	20	20		
RLF	15	15	15		
Schedule Compliance	10470	10470	10470		
Reports	120	120	118	2	Severity 3 defects outstanding

Status: Final

Component / Module	Total Test Cases	Test Cases Run	Test Cases Passed	Failed/Blocked	Comments
Pay rules	23390	23390	23390		This represents testing of all valid pay rule/calc group combinations across the 221 calc groups created for QH employees.
TOTAL	37059	37059	37057	2	

3.2.2. SAP System Test

Component / Module	Total Test Cases	Test Cases Run	Test Cases Passed	Comments
00. SAP Environment Shakeout Testing	51	51	51	
01. Personnel Administration (2.1 Manage Employee Information)	99	99	99	
02. Organizational Management	23	23	23	
04. Reports	11	11	11	
06. User Exits	13	13	13	
SAP Security Testing	707	707	707	
TOTAL	904	904	904	

3.2.3. Internal Interfaces

SAP to Workbrain interface

Interface	Total	Executions	Passed
Cost Object Interface	14	14	14
Job Interface	10	10	10
Team Structure Interface	9	9	9
Employee Data Extract Interface	375	375	375
TOTAL	408	408	408

Note. The above testing did not include testing of XI transfer of files as this was conducted in the next phase of SIT as part of Solution Automation. Refer section 3.2.7.

Workbrain to SAP interface

Interface	Total	Executions	Passed
Work Detail Export Interface	1714	1714	1714
Leave Balance Interface	64	64	64
Payslip Message Interface	4	4	4
Off Cycle Exports	9	9	9
TOTAL	1791	1791	1791

Note. The above testing did not include testing of XI transfer of files as this was conducted in the next phase of SIT as part of Solution Automation. Refer Section 3.2.7.

3.2.4. End to End (non CE/AE)

During End to End testing it was agreed between QHIC and QHEST to reduce the planned test scope to focus on the priority calc groups.

Scenario		Total Test Cases	Actual Executions	Passed	Failed/Blocked	Comments
01. Std Pay, Allowances and Leave Accrual	01. Std Pay and Allowances	44	44	44	0	
	02. PH Pay	1	1	1	0	
02. Std Pay with Workbrain initiated chgs	01. Time and Attendance Chgs (Penalties & Overtime)	14	14	14	0	
	02. Leave and Absences	34	34	33	1	Severity 3 defect
03. Organisation Management	Organisation Management	6	6	6	0	
04. New Hire		13	13	13	0	
05. Movements		26	26	26	0	
06. Terminations		33	33	33	0	
07. Workcover		3	3	3	0	
08. Increments		7	7	7	0	
09. Prior Service		3	3	3	0	

Status: Final

Scenario		Total Test Cases	Actual Executions	Passed	Failed/Blocked	Comments
10. Retrospective Changes	01. Backdated pay changes	5	5	5	0	
	02. Backdated T&A changes	9	9	9	0	
11. Deductions and Overpayments		6	6	6	0	
12. Payroll (2.3 Manage Payroll Cycle)		46	46	46	0	A number of these were conditionally passed on the basis of successful manual execution in PPV 1 and 2. They were conditional as the automated solution was not available during the initial system test phase and so could not be tested in this phase. This has since been tested with the full automation solution in place (refer Solution Automation tests section 3.2.7)
TOTAL		251	251	250	1	

3.2.5. End to End – Concurrent and Aggregate Employment

Scenario		Total Test Cases	Actual Executions	Passed	Failed/Blocked	Comments
00. Std Pay Aggregate		3	3	3		
01. Std Pay Concurrent		4	4	4		
02. Std Pay with Workbrain		4	4	4		
03. Master Data CE		2	2	2		
04. New Hire		3	3	3		
05. Movements		14	14	14		
06. Terminations		5	5	2	0	Severity 3 defect outstanding
07. Workcover		2	2	2		
08. Increments		6	6	6		
09. Prior Service	01. Backdated pay changes	3	3	3		
10. Retrospective Changes	02. Backdated T&A changes	4	4	4		
11. Deductions &		5	5	5		
TOTAL		55	55	52	0	

3.2.6. Change Requests – “Baseline 4”

The following table contains information on the status of testing performed for Change Requests or additional functionality approved after system test had begun. This drop of code was known as Baseline 4 and it was implemented midway through E2E testing.

CR Name/d	Total Test Cases	Executed	Passed	Comments
ALCS	26	26	26	
CR060 Nurses PDE	9	9	9	
CR094 Leave Paid in Advance				Covered under E2E testing
CR096 – Leave Loading	2	2	2	
CR113 RDO Processing	1	1	1	
CR 114 Offender's Health Service	6	6	6	
CR132 Additional Wage types	2	2	2	
CR133 secondment unpaid leave type				Covered under E2E tests
CR134 Phone Payment Wage Type	1	1	1	
CR135 Day in Lieu Leave Balance	2	2	2	
CR136 LSL VMO Cascade	2	2	2	
CR137 VMO Recreation leave	5	5	5	
CR 138 VMO Outreach package				Covered under E2E tests
CR148 EG/ESG Combination 154 RANIP Additional Ent Structure Mapping	12	12	12	
CR155 Roster Conflict Report				Covered in Reports testing
CR157 Nurses Meal Allowance	1	1	1	
CR158 Child Support deductions	1	1	1	
CR159 Recall offsite	1	1	1	
CR163 Part time pay calculation	10	10	10	
CR164 Super No TFN	4	4	4	
CR169 All Purpose allowances				
TOTAL	85	85	85	

3.2.7. System Test Phase 2

System Test Phase 2 was originally scheduled to run from 23 March to 3 April but was extended to 17 April to cater for testing of Issue 32, and subsequent extra regression testing.

3.2.7.1. SAP Stack Release 20

System Test Phase 2 was conducted after the implementation of SAP Stack 20 into the test environment. We ran E2E regression testing at this time to confirm that there were no impacts from the latest software changes including those introduced in SAP Stack 20. We successfully ran tests against the major fundamental functionality including:

- Retrospective Workbrain and SAP calculations
- New hires and higher duties changes
- Various leave transactions and types
- Various combinations of actual versus rostered hours
- Superannuation
- Terminations
- Included both non-CE and CE employees.

Function/CR	Total Test Cases	Test Cases Run	Test Cases Passed	Comments
Solution Automation	37	37	37	Includes internal interfaces and payroll processes for: - Interim Payrun 1 - Interim Payrun Sunday - Final - Ad hoc.
HR FI – EOM Accruals	32	32	32	
HR FI – Staff Movements	63	63	61	Sev 3 defects only.
ALCS (additional tests from Defect 2647)	12	12	12	
Workbrain CR 176 – Data Extract Utility	8	8	8	

Status: Final

Function/CR	Total Test Cases	Test Cases Run	Test Cases Passed	Comments
Workbrain CR – BAD balance updates	4	4	3	One Sev 3 defect.
E2E Regression	57	57	49	Eight test cases failed by Sev 3 defects.
Defect 32	849	849	828	One Sev 3 defect failing these cases.
TOTAL	1062	1062	1030	

3.3. System Integration Test

Internal system testing has been performed on files created for external applications. Subsequently, they have been sent through to the interface "owner" for verification of content, format and delivery. This SIT signoff is required prior to the start of External Application Testing, where the interfacing applications conduct their own testing to ensure they can process and use the QHIC solution files.

Interface	Total	Executed (within QHIC system test)	Passed	SIT Interface Owner	Signoff Received or Date Required
Payslip Advice File	22	22	22	Payroll Bureau	Yes*
Payment Summary Print File Interface	3	3	3	Payroll Bureau	Yes*
QSuper Superannuation Interface	3	3	3	QHEST	Yes*
EFT Cheque Interface	14	14	14	Payroll Bureau	Yes*
Deductions Distribution Interface	3	3	3	Payroll Bureau	Yes
ATO Interface (Empdupe, TFN DEC)	6	6	6	Payroll Bureau	Yes
FDSS Interface	3	3	3	DSS	Yes
HRDSS Interface	51	51	51	DSS	Yes
IMS Interface	13	13	13	IMS	Yes
TOTAL	118	118	118		

* Sign off received with agreement to resolve residual issues noted in Appendix B.

3.4. Defects

3.4.1. Open Defect Status

The following table shows the open system test/SIT QHIC defect status as at 27 April 2009. They include open defects from System Test and SIT.

	2 - Major	3 - Minor	4 - Cosmetic	Total
Build-HR/FI		3		3
Build-SAP		21		21
Build-WB Awards		5		5
Build-WB Non-Awards		2	5	7
Business Team		1		1
Test-E2E		1		1
Test-HR/FI		5		5
Test-SAP		2		2
Test-SIT		1		1
Test-WB Awards		1		1
TOTAL	0	42	5	47

3.4.2. Total Defects

The following table shows the total number of defects raised during System Test and SIT, by status.

	1 - Critical	2 - Major	3 - Minor	4 - Cosmetic	TOTAL
Assigned		1	32	2	28
Closed	20	1241	832	191	2274
Closed with CR		1			1
Closed with workaround		9			9
Closed-No Defect		44	55	9	106
New			3		11
Ready for Retest			6		3
Ready for Transport					1
With Vendor			1	3	3
TOTAL	20	1296	929	205	2450

3.5. Mapping of requirements to test cases

The QHIC Requirements Traceability Matrix [1] contains the mapping of approved business requirements (as contained in the QHIC Scope Definition V1.0 [2]) through business processes to individual test cases.

The RTM maps level 5 business processes to individual test cases contained within Mercury QC. These Level 5 business process map back through detailed PDRs to the higher level QHIC Scope Definition.

An audit report by K J Ross and Associates on April 23 identified issues with the evidence of these links. This issue has now been reviewed and resolved, and KJ Ross have agreed that we have been able to demonstrate satisfactory links between the execution results and the RTM, and that on evidence provided the test execution has matched the requirements matrix.

4. Conclusions and recommendations

The QHIC Project Team recommends acceptance of this Test Completion Report and exit from the System Test and SIT phases of the project, based on the status outlined in this document against the planned exit criteria. This acceptance is also based on agreement that the following activities need to be completed:

1. Complete fixing and retesting of Severity 3 defects as per the agreed management plan dates, and close out any remaining system test/SIT test cases attached to them;
2. Resolve residual issues relating to the SIT Interface testing.

Appendix A. List of Defects “Closed with Workaround”

The following defects from system test and SIT have been closed with agreed workarounds.

Defect	Summary	QHIC Workaround Reference
1594	WB-ST-Conf: (356505) System does not continue to pay OT2 for a Recall that is worked from 05:00 to 09:00.	004
1653	WB-ST-Conf: Payrule- Some Calc Groups are missing a Pub Hol rule for employees with 'Extra Week Pub Hol' flag = NO	039
1696	WB-ST-Conf: (252507) PHL_150 should be paid for 4 hours instead of 2.	022
1720	WB-ST-RQTS: (351524) Rule mentions OT rates paid on a Public Holiday wrongly for some CGs.	011
1823	WB-ST-Conf: (252504) System pays MEAL allowance for overtime worked for 1.02 minutes.	040
1861	WB-ST-RQTS: (351528) Acc to business this rule should not apply to Cal Group 234 since it is a VDO cal group. This rule applies to VMO's	019
1919	WB-ST-RQTS: (107007) - Daily OT rule is not defined for some calcgroups	038A, 038B, 038C
2199	DHSEA employees and SMOs are not being paid a 2 hour minimum for OT on weekends and RDOs	035
2433	WB - REQUIREMENT - Rule 351507 has been incorrectly applied to some calcgroups	046

This table shows those workarounds associated with defects raised in System Test and SIT. In total, there are 30 workarounds developed by QHEST, which can be found in the QHEST Workaround Register [3].

Appendix B. SIT - Residual Issues

The following email from Michael McMahon at Payroll Bureau outlines the reasons for conditional SIT signoff of the payroll-related files. I have added my commentary in **bold**.

"From my perspective the following residual issues remain:

1. the latest EFT file reviewed contained spurious characters that could not be reproduced during testing. **The additional characters represented an error in processing that is now resolved, hence it cannot, and should not, be reproduced. New files can be sent for verification;**
2. the latest Payment Summary print file did not include additional allowances/deductions records (this is the primary purpose of this file) **These have been provided to Payroll Bureau in earlier files. These can be resent if required;**
3. the latest pay advice print files reviewed did not contain any disbursement (employee BSB/bank account) records. **This has been noted previously and is an environmental issue with SIT (recorded in QC ticket 2708). This data will be available from the UAT environment."**

Update as at 1 May from Michael McMahon contained in review feedback for this document is reproduced below.

"There was an updated EFT file provided to me yesterday. The previous issue with spurious characters was not witnessed, however two further issues that had been reported in previously reviewed files re-occurred:

1. The APCA id was incorrect for a Final Pay Run file. The APCA id was that of the adhoc runs.
2. The file did not contain a type 13 balancing transaction."