



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



**Document Title:** COUNTER PERFORMANCE TEST REPORT

**Document Reference:** TST/SOT/REP/0926

**Release:** HNGX Release 1

**Abstract:** This is the Counter Performance Test Report conducted on the VOL rig.

**Document Status:** DRAFT

**Author & Dept:** Peter Langford  
Comments to be returned to Mark Ascott

**External Distribution:** None

**Security Risk Assessment Confirmed** YES – No Risk

**Approval Authorities:**

Name	Role	Signature	Date
Alan D'Alvarez	Programme Manager	See Dimensions for record	
Debbie Richardson	Test & Integration Manager	See Dimensions for record	
Lee Farman	Test Manager (POL JTT)	See Dimensions for record	

See HNG-X Reviewers/Approvers Matrix (PGM/DCM/ION/0001) for guidance on who should approve.



## 0 Document Control

### 0.1 Table of Contents

<b>0 DOCUMENT CONTROL.....</b>	<b>2</b>
0.1 <u>Table of Contents.....</u>	2
0.2 <u>Document History .....</u>	4
0.3 <u>Review Details .....</u>	4
0.4 <u>Associated Documents (Internal &amp; External).....</u>	5
0.5 <u>Abbreviations and Terms .....</u>	5
0.6 <u>Glossary.....</u>	6
0.7 <u>Changes Expected .....</u>	6
0.8 <u>Accuracy .....</u>	6
0.9 <u>Security Risk Assessment.....</u>	6
<b>1 INTRODUCTION.....</b>	<b>7</b>
<b>2 SCOPE.....</b>	<b>7</b>
<b>3 MANAGEMENT SUMMARY.....</b>	<b>8</b>
3.1 <u>Test Case Coverage.....</u>	9
3.2 <u>Defects .....</u>	10
3.2.1 <u>Defects Raised.....</u>	10
<u>Open Defects .....</u>	11
<b>4 TEST CASE DETAILS.....</b>	<b>12</b>
4.1 <u>Test Group C01 – HNG-X Counter Performance.....</u>	12
Results Analysis Interpretation.....	12
Results shown in this section are taken from the output from Winrunner and some explanation is required to align screen flows with Winrunners results output.....	12
C01.M01 HNG-X CAPO Balance Enquiry & Withdrawal .....	13
4.1.1 C01.M02 HNG-X A&L Business Deposit .....	15
C01.M03 HNG-X LINK Cash Withdrawal .....	16
4.1.2 C01.M04 HNG-X Purchase E-Top Up .....	17
4.1.3 C01.M05 HNG-X Purchase Phone Card .....	18
4.1.4 C01.M06 HNG-X Tax a vehicle for 12 months no VAT .....	19
4.1.5 C01.M07 HNG-X SORN with vehicle address changes .....	20
4.1.6 C01.M08 HNG-X Purchase postal order .....	21
4.1.7 C01.M09 HNG-X Encash postal order.....	22
4.1.8 C01.M10 HNG-X Payment by Debit-Credit card .....	23
4.1.9 C01.M11 HNG-X Address Lookup.....	24
4.1.10 C01.M12 HNG-X Purchase Saving Stamp .....	24
4.1.11 C01.M13 HNG-X Purchase 1st Class Stamps .....	25
4.1.12 C01.M14 HNG-X Purchase Pure Air Sure Europe Stationery .....	25
4.1.13 C01.M15 HNG-X Purchase Scratchcard .....	26
4.1.14 C01.M16 HNG-X Purchase Electricity Tokens .....	27
4.1.15 C01.M17 HNG-X Purchase Premium Bonds.....	28



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



<b>4.1.16</b>	C01.M18 HNG-X Purchase 1 Day Fishing License.....	29
<b>4.1.17</b>	C01.M19 HNG-X Post Special Delivery Small Letter .....	30
<b>4.1.18</b>	C01.M20 HNG-X Post Large Letter .....	31
<b>4.1.19</b>	C01.M21 HNG-X Post Letter USA Weighting.....	32
<b>4.1.20</b>	C01.M22 HNG-X Packet.....	33
<b>4.1.21</b>	C01.M23 HNG-X Bulk Post .....	34
<b>4.1.22</b>	C01.M24 HNG-X Pay Bill.....	35
<b>4.1.23</b>	C01.M25 HNG-X Freedom Passes .....	36
<b>4.1.24</b>	C01.M26 HNG-X Moneygram.....	37
<b>4.1.25</b>	C01.M27 HNG-X Travel Insurance.....	38
<b>4.1.26</b>	C01.M28 HNG-X Purchase Foreign Currency .....	39
<b>4.1.27</b>	C01.M29 HNG-X Purchase Foreign Currency in Travellers Cheques .....	40
<b>4.1.28</b>	C01.M30 HNG-X Purchase Pre-Order Foreign Currency .....	41
<b>4.1.29</b>	C01.M31 HNG-X Foreign Currency Buy Back .....	42
<b>4.1.30</b>	C01.M32 HNG-X Remittance Acceptance .....	43
<b>4.1.31</b>	C01.M33 HNG-X Remittance Rejection .....	44
<b>4.1.32</b>	C01.M34 HNG-X Transaction Correction for a Remittance Shortage .....	45
<b>4.1.33</b>	C01.M35 HNG-X Spoiled Postal Orders.....	45
<b>4.1.34</b>	C01.M36 HNG-X Stock Unit Reports.....	46
<b>4.1.35</b>	C01.M37 HNG-X Office Reports.....	47
<b>4.1.36</b>	C01.M38 HNG-X Logon.....	49
<b>4.1.37</b>	C01.M39 HNG-X Logoff.....	49
<b>4.1.38</b>	C01.M40 HNG-X Help .....	50
<b>4.2</b>	<b>Test Group R01 – Branch Router .....</b>	<b>51</b>
Although the graph above does show some variance in response times these are minimal compared to the amount of items being transacted. The table below shows that with the increase in counters trading the settlement response time reaches no higher than 1.25 seconds in the 95 percentile.		52
<b>5</b>	<b>RECOMMENDATIONS .....</b>	<b>54</b>
<b>6</b>	<b>CONCLUSIONS .....</b>	<b>63</b>



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



## 0.2 Document History

Version No.	Date	Summary of Changes and Reason for Issue	Associated Change - CP/PEAK/PPRR Reference
0.1		First draft for review by Joint Test Team	

## 0.3 Review Details

See HNG-X Reviewers/Approvers Matrix (PGM/DCM/ION/0001) for guidance on completing the lists below. You may include additional reviewers if necessary, but you should generally **not exclude** any of the mandatory reviewers shown in the matrix for the document type you are authoring.

Review Comments by :	
Review Comments to :	
<b>Mandatory Review</b>	
Role	Name
Programme Manager	Alan D'Alvarez
Test & Integration Manager	Debbie Richardson
Test Manager (POL JTT)	Lee Farman
Solution Design/Development	Ian Turner (Counter & BAL/OSR)
Solution Design/Development	David Harrison (Legacy Web Svcs, Agents & Audit, Crypto Host & Ref Data)
<b>Optional Review</b>	
Role	Name
Test Manager	Chris Young (POL JTT)
RV Manager	James Brett (POL JTT)
VI & TE Manager	Mark Ascott
VI Test Team Lead	Michael Welch
Systems Qualities Architect	David Chapman
Lead Architect	Peter Jobson
SV&I Manager	Sheila Bamber
Issued for Information – Please restrict this distribution list to a minimum	
Position/Role	Name

( \* ) = Reviewers that returned comments



## 0.4 Associated Documents (Internal & External)

Reference	Version	Date	Title	Source
[1] PGM/DCM/TEM/0001 (DO NOT REMOVE)	5.0	03 June 2009	RMGA HNG-X Generic Document Template	Dimensions
[2] TST/SOT/HTP/0003	1.0	12-September-2008	HNG-X Volume and Performance High Level Test Plan	Dimensions
[3] PA/PER/033			Horizon Capacity Management and Business Volumes	PVCS
[4] ARC/PER/ARC/0001			System Qualities Architecture	Dimensions

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

## 0.5 Abbreviations and Terms

Abbreviation	Definition
BRDB	Branch Database
DAT	Main Host Database
DC	Data Centre
DCS	Debit Card Service
DRS	Data Reconciliation Service
DVLA	Driver Vehicle Licensing Authority
EOD BLOB	Attachment to End Of Day messages generated at a Horizon counter containing data pertaining to stock unit and product information
EPOSS	Electronic Point Of Sale Service
ETU	Electronic Top-Up
HLTP	High Level Test Plan
LREC	Link Reconciliation File
NTSS	Non Test Stream Specific
PAF	Postal Address File
PCI	The Payment Card Industry Data Security Standard
T&T	Track & Trace
TPS	Transaction Processing System
tps	transactions per second
V&I	Volume & Integrity



## 0.6 Glossary

Term	Definition
Performance Testing or Load Testing	A series of tests to measure the performance characteristics and behaviour of specific components of the solution under load to demonstrate their ability to achieve defined performance requirements. For example, to test that a particular web service is capable of supporting the relevant contractual peak rate of transactions per second (the defined load).
Volume Testing	A series of tests to demonstrate that the whole solution is able to support a typical daily workload. For example, to test that a peak weekday transaction profile can be successfully harvested and that all scheduled batch processing can be completed within expected timescales.

## 0.7 Changes Expected

Changes
Accepted comments following document review.

## 0.8 Accuracy

Fujitsu Services endeavours to ensure that the information contained in this document is correct but, whilst every effort is made to ensure the accuracy of such information, it accepts no liability for any loss (however caused) sustained as a result of any error or omission in the same.

## 0.9 Security Risk Assessment

Security risks have been assessed and it is considered that there are no security risks relating specifically to this document.



## 1 Introduction

The HNG-X Volume and Performance High Level Test Plan [2] outlined the approach and scope of the Counter Performance Testing. The plan outlined two types of tests:

Counter Performance Tests- Tests designed to record the timings for each part of the specified transactions

Branch Router Tests – Tests designed to assess the performance affect of a transaction when there is more than one counter trading at the same time at an outlet

This is the Test Report for Counter Performance Testing and includes the results of both sets of tests and provides a factual statement on the Counter Performance test status metrics at completion of Phase 2 of Volume and Performance Testing. The status of particular Test Cases raw system logs, and any associated defects can be ascertained from the Quality Centre system.

## 2 Scope

The approach to testing counter performance was to take baseline timings where there was no or little load on the HNGX data centre and compare those with timings taken where there was significant load on the HNGX data centre for each of the transactions outlined in the Counter Performance Test Plan.

Due to the amount of transactions that needed to be conducted in a short schedule window, priority was given to 'core' transactions that either made up a significant amount of the Post Office business or had equivalent Horizon timings to compare. These 'core' transactions are highlighted below:

- CAPO Enquiry
- CAPO Withdrawal All
- LINK Withdrawal
- A&L Business Deposit
- DVLA 12 month Tax disc
- First Class Stamps
- E-Topup
- Pay a bill
- Debit Card Payment
- Post 1 Large Letter

Transactions outside the 'Core' set were at the very least conducted when the HNGX data centre was under load.



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



Load was generated on the HNGX data centre using a tool called Loadrunner which generated approximately 900 transactions per second (TPS) across a mix of transaction types for non-banking counter transactions. This represents a close alignment to peak Post Office business volumes.

Below is a list of transaction types that were generated as the background load to loaded counter performance results.

Transaction	Settle/sec
CAPO Banking Withdrawal	14
A&L Banking Withdrawal	1
LINK Banking Withdrawal	3
Stamp Sale	20
DVLA 12 month Tax	3
Special Delivery Mails	5
Bill Payment	3
E-Top Up	1
Postal Orders	1

For banking transactions, restrictions on the test environment prevented the same type of banking transactions being generated at the data centre and on the counter. i.e. CAPO/LINK/A&L banking load could not be generated at the data centre while CAPO/LINK/A&L banking transactions are conducted on the counter.

However to make the background load more realistic, load generation at the data centre was switched off for a banking type while that banking type was conducted on the counter. i.e. CAPO/LINK/A&L load generation was switched off at the data centre while CAPO/LINK/A&L counter transactions were being performed. This meant that when CAPO load was not being generated at the data centre while CAPO transactions were being performed there was a reduced background load (although LINK and A&L load was still being generated) to about 500TPS

### 3 Management Summary

For completeness, the following table shows all tests originally identified in the Counter Performance HLTP.

Yellow = tests conducted during Phase 2 on the Vol rig, which are the subject of this report

Pink = Not tested (as agreed on completion of Phase 1). These were either subsumed in other tests or considered to be low risk.

Test Grp	Description	Phase 2 on VOL	Not run
C01	Counter performance tests	Y	1
R01	Branch router tests	Y	N/A



### 3.1 Test Case Coverage

The following table provides an overview of the final test status at the end of Counter Performance Testing for each Test Case within those test groups highlighted in yellow above.

Test Group	Test Description	Status
C01	C01.M01_HNG-X CAPO Balance Enquiry & Withdrawal	PASS
	C01.M02_HNG-X A&L Business Deposit	PASS
	C01.M03_HNG-X LINK Cash Withdrawal	PASS
	C01.M04_HNG-X Purchase E-Top Up	PASS
	C01.M05_HNG-X Purchase Phone Card	PASS
	C01.M06_HNG-X Tax a vehicle for 12 months no VAT	PASS
	C01.M07_HNG-X SORN with vehicle address changes	PASS
	C01.M08_HNG-X Purchase postal order	PASS
	C01.M09_HNG-X Encash postal order	PASS
	C01.M10_HNG-X Payment by Debit-Credit card	PASS
	C01.M11_HNG-X Address Lookup	PASS
	C01.M12_HNG-X Purchase Saving Stamp	PASS
	C01.M13_HNG-X Purchase 1st Class Stamps	PASS
	C01.M14_HNG-X Purchase Pure Air Sure Europe Stationary	PASS
	C01.M15_HNG-X Purchase Scratchcard	PASS
	C01.M16_HNG-X Purchase Electricity Tokens	PASS
	C01.M17_HNG-X Purchase Premium Bonds	PASS
	C01.M18_HNG-X Purchase 1 Day Fishing License	PASS
	C01.M19_HNG-X Post Special Delivery Small Letter	PASS
	C01.M20_HNG-X Post Large Letter	PASS
	C01.M21_HNG-X Post Letter USA Weighting	PASS
	C01.M22_HNG-X Packet	PASS
	C01.M23_HNG-X Bulk Post	PASS
	C01.M24_HNG-X Pay Bill	PASS
	C01.M25_HNG-X Freedom Passes	PASS
	C01.M26_HNG-X Moneygram	PASS
	C01.M27_HNG-X Travel Insurance	PASS
	C01.M28_HNG-X Purchase Foreign Currency	PASS
	C01.M29_HNG-X Purchase Foreign Currency in Travellers Cheques	PASS
	C01.M30_HNG-X Purchase Pre-Order Foreign Currency	PASS
	C01.M31_HNG-X Foreign Currency Buy Back	PASS
	C01.M32_HNG-X Remittance Acceptance	PASS
	C01.M33_HNG-X Remittance Rejection	PASS



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



Test Group	Test Description	Status
	C01.M34_HNG-X Transaction Correction for a Remittance Shortage	NOT RUN
	C01.M35_HNG-X Spoiled Postal Orders	PASS
	C01.M36_HNG-X Stock Unit Reports	PASS
	C01.M37_HNG-X Office Reports	PASS
	C01.M38_HNG-X Logon	PASS
	C01.M39_HNG-X Logoff	PASS
	C01.M40_HNG-X Help	PASS
R01	R01.M01 Branch Router Performance 1 Counter	PASS
	R01.M02 Branch Router Performance 5 Counter	PASS
	R01.M03 Branch Router Performance 10 Counter	PASS
	R01.M04 Branch Router Performance 20 Counter	PASS

Full results for each test are detailed in Section 4 of this report.

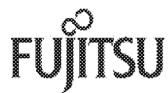
## 3.2 Defects

### 3.2.1 Defects Raised

A total of nnn defects were raised by the Volume and Performance test team up to the conclusion of Phase 2 testing. The following table shows the priority and status breakdown for these defects as at the date of this report.

Current Priority PEAK (QC)	Open	Awaiting Test	Awaiting Closure	Closed	Totals
A (4 - Very High)					
B (3 - High)					
C (2 - Medium)					
D (1 - Low)					
<b>Totals</b>					

Open	Calls are with a development or support team
Awaiting Test	Calls have been returned to V&I awaiting retest or some other action
Awaiting Closure	Calls are with V&I awaiting formal closure
Closed	Calls are closed, no further actions required

VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE

## Open Defects

The following table shows the priority and call summary for all defects that currently remain Open.

QC Defect	Peak Ref	Pty	Summary	Assigned Team	Updated



## 4 Test Case Details

This section provides a more detailed view of each Test Case executed for each of the Test Groups during Phase 2.

### 4.1 Test Group C01 – HNG-X Counter Performance

#### Results Analysis Interpretation

Results shown in this section are taken from the output from Winrunner and some explanation is required to align screen flows with Winrunners results output.

Below is example output from a banking transaction. An explanation of each column is shown below

**From Window** – this column indicates the window the timing is taken from. i.e. the current window. **POC** is the main Post Office Counter window, **Dialog** is any dialog that appears in the screen flow. **SysMsg** is a dialog that may appear for a period of time giving information to the clerk but disappear without user intervention. **Object** – The object the action is performed on. Objects are Winrunner objects and relate to Graphical User Interface (GUI) elements on the screen. Objects will for the most part be named exactly as they are seen on the screen. i.e the Banking object refers to the Banking button on the screen, there are some objects that have a trailing identifier see 'Service\_lbl' in the example below. This object refers to the service label. Other variants of object name include text input boxes which may have a trailing **edt** identifier i.e **Postal Order Value\_edt** which is the postal order value text box

**Action** – The action that is performed. Actions include Click/Appear/Vanish/Set/StartTimer/StopTimer

- **Click** – This simulates a press on the screen, when there is a row that contains a click action if the following row contains an appear or vanish action then the '**To Window**' and '**to Object**' columns are populated and the timing for the click includes the time for the following window/object to appear or vanish. On row 3 of the example below a click action is present and the following row (row4) contains an appear action. i.e. we want to click on banking and see how long it takes for the Chip & PIN object to appear. The accurate timing of the click on the banking button and the time it takes for the Chip & PIN button to appear is the timing taken from Row 3 which contains the click action.
- **Appear/Vanish** – This is used to time how long an object takes to appear or vanish. The accurate timing is taken from the preceding row.
- **Set** – Simulates keyboard typing into a text box field (this should not be used for any timing as Winrunner performs this much faster than a real user)
- **StartTimer/StopTimer** – This starts/stops a timer running. Most transactions have a start timer at the beginning of the transaction and a StopTimer at the end of the transaction. This timing event encapsulates the end-to-end time, however it does include any wait times, i.e. the delay in scanning a barcode or inputting a bank card and therefore not a true indication of system performance

**Average** – This column contains the average time for each of the steps. Each transaction was performed 12 times. 'No Load' times are average timings taken when there was no load injected into the data centre. 'Under Load' times are the average timings taken when load was injected into the data centre.

**Difference** (where applicable) – This column is the difference between the loaded and unloaded timings for each step. i.e. Load minus unloaded average timing

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC		StartTimer		E2E Time	0	0	0
POC		Click	POC	Chip & PIN	443	553	110
POC	Banking	Appear	-	-	613	805	193
POC	Chip & PIN	Click	Dialog	Card Insertion	794	906	113
Dialog	Chip & PIN	Appear	-	-	422	603	181
	Card Insertion						



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



## C01.M01\_HNG-X CAPO Balance Enquiry & Withdrawal

### CAPO Balance Enquiry

The results for a CAPO balance enquiry show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: The time it takes from entering the PIN to the transaction authorised dialog appearing which in the sample data is slightly quicker under load.

Transaction settlement: The time taken for Settle Click to item empty. This is slightly higher under load of about 600 milliseconds.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Load	
POC	Home	Click	POC		42	40	-2
POC		StartTimer		E2E Time	0	0	0
POC	Banking	Click	POC	Chip & PIN	443	553	110
POC	Chip & PIN	Appear	-	-	613	805	193
POC	Chip & PIN	Click	Dialog	Card Insertion	794	906	113
Dialog	Card Insertion	Appear	-	-	422	603	181
Dialog	Card Inserted	Appear	-	-	1334	1233	-102
POC	Service_lbl	Appear	-	-	8560	8479	-81
POC	Balance	Click	Dialog	Enter PIN	904	979	75
Dialog	Enter PIN	Appear	-	-	399	579	180
Dialog	Enter PIN	Vanish	-	-	4007	3922	-86
Dialog	Transaction Authorised	Appear	-	-	2787	2135	-652
Dialog	Transaction Authorised	Vanish	-	-	1422	1304	-118
SysMsg	Authorised - Receipt Printing	Appear	-	-	2150	2245	95
POC	Chip & PIN	Appear	-	-	2763	2630	-133
POC		StopTimer			31571	31956	386
POC	Home	Click	POC		41	39	-2
POC		StartTimer		E2E Time	0	0	0
POC	Item	Appear	-	-	4089	4703	615
POC	Settle	Click	POC	Item Empty	1225	1049	-177
POC	Item Empty	Appear	-	-	644	780	136
POC		StopTimer			4464	4840	377



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### CAPO Withdrawal

The results for a CAPO Withdrawal show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: The time it takes from entering the PIN to the transaction authorised dialog appearing which in the sample data is slightly greater under load of 1009 milliseconds.

Transaction settlement: The time taken for 'Fast Cash Click' to 'Item Empty'. This is slightly lower under load.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Load	
POC	Home	Click	POC		43	40	-3
POC		StartTimer		E2E Time	0	0	0
POC	Banking	Click	POC	Chip & PIN	439	577	138
POC	Chip & PIN	Apear	-	-	600	808	208
POC	Chip & PIN	Click	Dialog	Card Insertion	809	921	112
Dialog	Card Insertion	Appear	-	-	425	603	178
Dialog	Card Inserted	Appear	-	-	1420	1214	-206
POC	Service_lbl	Appear	-	-	8518	8486	-32
POC	Withdraw Limit	Click	Dialog	Enter PIN	916	1041	124
Dialog	Enter PIN	Appear	-	-	391	619	228
Dialog	Enter PIN	Vanish	-	-	3989	3814	-175
Dialog	Transaction Authorised	Appear	-	-	2146	3155	1009
Dialog	Transaction Authorised	Vanish	-	-	1532	1293	-240
SysMsg	Authorised - Receipt	Printing			2143	2249	106
POC	Chip & PIN	Appear	-	-	2741	2780	39
POC		StopTimer			30982	33170	2188
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1453	1259	-194
POC	Item Empty	Appear	-	-	603	780	177
POC		StopTimer			3979	4273	294



#### 4.1.1 C01.M02\_HNG-X A&L Business Deposit

The results for an A&L Business Deposit transaction show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: The time it takes from entering the PIN to the transaction authorised dialog appearing which in the sample data is marginally quicker under load.

Transaction settlement: The time taken for 'Fast Cash Click' to 'Item Empty'. This is marginally higher under load of 363 milliseconds.

From Window	Object	Action	To Window	Object	Average		Under Load
					No Load	Under Load	
POC	Home	Click	POC		43	44	1
POC		StartTimer		E2E Timer	0	0	0
POC	Banking	Click	POC	Chip & PIN	435	504	69
POC	Chip & PIN	Appear	-	-	607	634	28
POC	Chip & PIN	Click	Dialog	Card Insertion	793	907	114
Dialog	Card Insertion	Appear	-	-	416	449	33
Dialog	Card Inserted	Appear	-	-	1385	1842	457
POC	Service_lbl	Appear	-	-	9272	9288	17
POC	Cash Deposit	Click	POC	Amount	461	572	111
POC	Amount	Appear	-	-	582	596	15
POC	Amount	SetValue as	-	-	129	128	-1
POC	Enter	Click	Dialog	Confirm Deposit Amount	343	357	14
Dialog	Confirm Deposit Amount	Appear	-	-	402	439	37
Dialog	Confirm	Click	Dialog	Transaction Authorised	5082	5223	140
Dialog	Transaction Authorised	Appear	-	-	471	414	-57
Dialog	Transaction Authorised	Vanish	-	-	1137	1173	37
Dialog	Confirm Deposit Amount	Appear	-	-	411	408	-3
Dialog	Confirm Authorised - Receipt Printing	Click	SysMsg	Authorised - Receipt Printing	2416	2590	174
SysMsg	Authorised - Receipt Printing	Appear	-	-	389	393	4
POC	Chip & PIN	Appear	-	-	2373	2600	226
POC		StopTimer			36936	38562	1627
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1285	1638	353
POC	Item Empty	Appear	-	-	619	639	20
POC		StopTimer			3835	4216	381



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



## **C01.M03\_HNG-X LINK Cash Withdrawal**

The results for a LINK Cash Withdrawal transaction show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: The time it takes from entering the PIN to the transaction authorised dialog appearing which in the sample data is marginally higher of 293 milliseconds.

Transaction settlement: The time taken for 'Fast Cash Click' to 'Item Empty'. This is slightly higher under load of about 738 milliseconds.

From Window	Object	Action	To Window	Object	Average		Under Load
					No Load	Under Load	
POC		StartTimer		E2E Time	0	0	0
POC	Chip & PIN	Click	Dialog	Card Insertion	893	788	-105
Dialog	Card Insertion	Appear	-	-	606	443	-163
Dialog	Card Inserted	Appear	-	-	1404	1287	-118
POC	Withdrawal	Appear	-	-	9061	9168	107
POC	Withdrawal	Click	POC	Amount	554	428	-126
POC	Amount	SetValue as 20.00	-	-	114	100	-14
POC	Enter	Click	Dialog	Enter PIN	929	871	-58
Dialog	Enter PIN	Appear	-	-	587	393	-194
Dialog	Enter PIN	Vanish	-	-	3679	4141	462
Dialog	Transaction Authorised	Appear	-	-	2450	2743	293
Dialog	Transaction Authorised	Vanish	-	-	1216	1597	381
SysMsg	Authorised - Receipt Printing	Appear	-	-	2253	2154	-99
POC	Chip & PIN	Appear	-	-	2876	2868	-7
POC		StopTimer			33286	32785	-501
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1442	2179	738
POC	Item Empty	Appear	-	-	848	606	-242
POC		StopTimer			4559	4771	212



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



#### 4.1.2 C01.M04\_HNG-X Purchase E-Top Up

As test C01.M05\_HNG-X Purchase Phone Card swipe timing taken from video

The average timing from the 'card swipe being accepted' to the 'ETU Menu' appearing is 122 milliseconds



#### 4.1.3 C01.M05\_HNG-X Purchase Phone Card

The results for an E-Top Voucher Sale show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: The time it takes from selecting a voucher to the transaction being authorised dialog (Dialog00912) to appear which is almost the same with a peak days load as it is with not.

Transaction settlement: This transaction was settled by debit card and the settlement time for this transaction is included under the results for C01.M10\_HNG-X Payment by Debit-Credit card.

Note: The timing on row 7 of the results indicates the timing from the System Authorised dialog to the system message Receipt Printing. The system message does not actually indicate the start of the printing and is not a persistent message (the printing of the receipt on the printer can start before the message is displayed)

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC		32	33	1
POC		StartTimer		E2E Time	0	0	0
POC	Telephony	Click	POC	Virgin e-voucher £10	381	428	47
POC	Virgin e-voucher £10	Click	POC		361	494	133
POC		Click	Dialog	MSG00912	400	491	91
Dialog	MSG00912	Appear	-	-	362	367	5
Dialog	Continue	Click	SysMsg	Receipt Printing	3165	3700	535
SysMsg	Receipt Printing	Appear	-	-	360	372	12
POC	Item	Appear	-	-	2750	2850	100
POC		StopTimer		E2E Time	13681	14693	1012



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



#### 4.1.4 C01.M06\_HNG-X Tax a vehicle for 12 months no VAT

The results for a the DVLA transaction of Taxing a vehicle for 12 months show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: The online part of the transaction is incorporated into the last scan of the tax disc so it is hard to pinpoint the online timing, however each step of the transactions is slightly better under load. For completeness the counter transaction log records the online part of the transaction as follows:

	No Load	Under Load	Difference
BALCommunication	1720	1319	-401

**Transaction settlement: The time taken for 'Fast Cash Click' to 'Item Empty'. This is slightly less under load.**

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Home	Click	POC		38	37	-1
POC		StartTimer		E2E Time	0	0	0
POC	Licences & Government	Click	POC	Motor Vehicle Licences_lbl	393	403	10
POC	Motor Vehicle Licences_lbl	Appear	-	-	577	555	-22
POC	Scan DVLA V11 barcode	Message	POC	Licence: MOT / New Vehicle	175	155	-20
POC	Licence: MOT / New Vehicle	Appear	-	-	5818	4823	-995
POC	Licence: MOT / New Vehicle	Click	POC	Scan (or key) the tax disc	1103	931	-173
POC	Scan (or key) the tax disc	Appear	-	-	563	557	-5
POC	Scan Tax Disc	Message	POC	Cash	1784	1420	-364
POC	Cash	Appear	-	-	5018	5370	352
POC	Cash	Click	POC	Item	730	733	3
POC	Item	Appear	-	-	583	576	-7
POC		StopTimer			19716	19745	29
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	14335	13564	-772
POC	Item Empty	Appear	-	-	605	582	-22
POC		StopTimer			16878	16069	-809



#### 4.1.5 C01.M07\_HNG-X SORN with vehicle address changes

The DVLA SORN transaction was recorded under peak load at the data centre only. The results below show the timings for each step.

The Settlement timing of 'Settle Click' to 'Item Empty' includes printing of the transaction receipt.

From Window	Object	Action	To Window	Object	Average Under Load
POC	Home	Click	POC		40
POC		StartTimer		E2E Time	0
POC	Licences & Government	Click	POC	Motor Vehicle	
POC	Motor Vehicle	Appear	-	Licences_lbl	456
POC	Licences_lbl	Appear	-		580
POC	Scan DVLA V11	Message	POC	SORN	184
POC	barcode	Appear	-		3439
POC	SORN	Click	POC	Product Description_tbl	923
POC	SORN	Appear	-		614
POC	Product Description_tbl	SetValue as	-		
POC	Description_edt	sornwith	-		296
POC	Enter	Click	POC	Licences & Government	1161
POC	Licences & Government	Appear	-		592
POC	Item	Appear	-		584
POC		StopTimer			14502
POC	Home	Click	POC		42
POC		StartTimer		E2E Time	0
POC	Item	Appear	-		4123
POC	Settle	Click	POC	Item Empty	11305
POC	Item Empty	Appear	-		606
POC		StopTimer			14561



#### 4.1.6 C01.M08\_HNG-X Purchase postal order

The results for the purchase postal order transaction show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Voucher check: The online part of the transaction flow whereby the transaction gets routed to the APOP webservice is hard to pinpoint, however each step of the transactions is slightly better under load. For completeness the counter transaction log records the online part of the transaction as follows:

	No Load	Under Load	Difference
BALCommunication	1468	906	-562
BALCommunication	977	602	-376

Transaction settlement: The time taken for 'Fast Cash Click' to 'Item Empty'. This is 282 milliseconds less under load.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Home	Click	POC		36	27	-9
POC		StartTimer		E2E Time	0	0	0
POC	AP Manual Entry	Click	POC	Barcode	454	314	-140
POC	Barcode	Click	POC	Manual Token	444	358	-86
POC	Manual Token	SetValue as		Input	408	316	-92
POC	Input	98269365112099971968	-		1155	562	-593
POC	Enter	Click	POC	Sell Postal Order	1465	899	-567
POC	Sell Postal Order	Click	POC	Postal Order			
POC	Postal Order	SetValue as 20.00	-	Value_edt	129	99	-30
POC	Value_edt		-		988	679	-310
POC	Enter	Click	Dialog	Confirm PO Fee	766	635	-131
Dialog	Confirm PO Fee	ClickOn Continue	POC	Payee Name_edt	611	506	-105
POC	Payee Name_edt	Appear	-		290	237	-52
POC	Payee Name_edt	SetValue as mr b brown	-				
POC	Enter	Click	Dialog	Crossed?	875	689	-186
Dialog	Crossed?	Appear	-		407	322	-85
Dialog	Yes	Click	Dialog	PO Sale	2504	1936	-568
Dialog	PO Sale	Appear	-		374	308	-66
Dialog	OK	Click	Dialog	Insert Slip	2092	1458	-634
Dialog	Insert Slip	Appear	-		368	296	-72
Dialog	Print	Click	SysMsg	Printing	2407	2316	-91
SysMsg	Printing	Appear	-		393	307	-86
Dialog	Remove Slip	Appear	-		2629	2982	352
Dialog	Continue	Click	POC	Item	14816	10663	-4153
POC	Item	Appear	-		582	528	-54
POC	Fast Cash	Click	POC	Item Empty	1890	1608	-282
POC	Item Empty	Appear	-		599	516	-84
POC		StopTimer			55878	46530	-9349



#### 4.1.7 C01.M09\_HNG-X Encash postal order

The results for an encash postal order transaction are similar to that of purchasing a postal order and show that there is no significant difference between when the transaction is performed under load or not.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC	AP Manual Entry	185	185	0
POC	AP Manual Entry	Appear	-	-	583	514	-69
POC	AP Manual Entry	Click	POC		254	185	-69
POC		StartTimer		E2E Time	0	0	0
POC	Barcode	Click	POC	Manual Token Input	431	346	-85
POC	Manual Token Input	Appear	-	-	566	468	-98
POC	Manual Token Input	SetValue as 98269365112099971968	-	-	395	306	-89
POC	Enter	Click	Dialog	Barcode/Card Already Used	622	471	-151
Dialog	Barcode/Card Already Used	ClickOn Continue	POC	Encash Postal Order	796	394	-402
POC	Encash Postal Order	Appear	-	-	559	488	-71
POC	Encash Postal Order	Click	Dialog	Security Check	1794	926	-867
Dialog	Security Check	Appear	-	-	409	306	-103
Dialog	Yes	Click	Dialog	Confirm Amount	1948	1538	-409
Dialog	Confirm Amount	Appear	-	-	366	322	-43
Dialog	Yes	Click	Dialog	PO Encash	1189	760	-429
Dialog	PO Encash	Appear	-	-	395	325	-70
Dialog	OK	Click	POC	Item	15836	11488	-4348
POC	Item	Appear	-	-	623	509	-114
POC	Fast Cash	Click	POC	Item Empty	1630	1302	-328
POC	Item Empty	Appear	-	-	604	534	-70
POC		StopTimer		E2E Time	40061	31580	-8481



#### 4.1.8 C01.M10\_HNG-X Payment by Debit-Credit card

The results for a payment by debit card show that there is no significant difference between when the transaction is performed under load or not.

The online parts of the transaction are the following:

Transaction Authorised: This time is from the 'PIN Entry' dialog appearing to the 'Transaction Authorized' dialog appearing. This time includes the manual entering of the PIN. However there is no significant difference under load.

The Debit Card Settlement was performed on an ETU only basket and therefore the printing time includes an ETU receipt.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC		29	33	4
POC		StartTimer		E2E Time	0	0	0
POC	Settle	Click	POC	Settlement	403	466	62
POC	Settlement	Appear	-	-	537	553	16
POC	Chip & PIN_26	Click	Dialog	Card Insertion	934	1008	74
Dialog	Card Insertion	Appear	-	-	371	361	-9
Dialog	Card Inserted	Appear	-	-	1485	1357	-128
POC	Amount	Appear	-	-	8626	8654	28
POC	Enter	Click	Dialog	PIN Entry	1487	1527	40
Dialog	PIN Entry Transaction Authorised	Appear	-	-	342	360	18
Dialog	Partner Bank	Appear	-	-	6519	6467	-52
Dialog	Partner Bank	ClickOn Continue	SysMsg	Printing	3363	3629	266
SysMsg	Printing	Appear	-	-	370	387	17
SysMsg	Printing	Vanish	-	-	3283	3221	-62
POC	Item Empty	Appear	-	-	567	567	0
POC		StopTimer		E2E Time	37600	38544	944



#### 4.1.9 C01.M11\_HNG-X Address Lookup

These results are incorporated in the results for test C01.M19\_HNG-X Post Special Delivery Small Letter

*The Address lookup in the transaction occurs on row 19 of the transaction and the results shown below.*

POC	Enter	Click	POC	Addresses_tbl	1290	1270	-20
-----	-------	-------	-----	---------------	------	------	-----

The loaded timing average was slightly less at 1270 milliseconds and comparable with the no load timing

#### 4.1.10 C01.M12\_HNG-X Purchase Saving Stamp

The results of purchasing a Saving Stamp show that there is a slight increase in the settlement time (the only online part of the transaction) under load of 411 milliseconds to 1998 milliseconds.

From Window	Object	Action	To Window	Object	Average		
					No load	Under Load	Difference
POC	Home	Click	POC	E2E Time	43	37	-7
POC		StartTimer		£5 Saving	0	0	0
POC	Retail	Click	POC	Stamps	508	534	26
POC	£5 Saving	Click	POC	Item	921	942	21
POC	Stamps	Appear	-	-	668	634	-34
POC	Item	StopTimer	-		5658	5584	-74
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1587	1998	411
POC	Item Empty	Appear	-	-	629	658	30
POC		StopTimer	-		4262	4689	427

Note: Since this transaction was performed and compared, performance improvements to the solution have been made and the transaction performed again with no load, the average timing being 1106 milliseconds.



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



#### 4.1.11 C01.M13\_HNG-X Purchase 1st Class Stamps

The results of purchasing 4 1<sup>st</sup> Class stamps show that the timings are slightly less under load and the online part of the transaction the settlement time being 1016 milliseconds.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Home	Click	POC	E2E Time	43	31	-12
POC		StartTimer	POC		0	0	0
POC		Click	POC		220	185	-34
POC		Click	POC		234	198	-36
POC		Click	POC		1154	640	-513
POC		Appear	-		653	656	3
POC		StopTimer	-		8172	6919	-1253
POC		StartTimer	-		0	0	0
POC		Click	POC		1989	1016	-973
POC		StopTimer	-		4738	3438	-1300

#### 4.1.12 C01.M14\_HNG-X Purchase Pure Air Sure Europe Stationery

The results of purchasing Pure AirSure Stationary show that the timings are comparable

The settlement being the only online part of the transaction and the timing under load being 1565 milliseconds.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Home	Click	POC	E2E Time	35	44	9
POC		StartTimer	POC		0	0	0
POC		Click	POC		546	567	21
POC		Click	POC		532	530	-2
POC		Click	POC		1088	931	-157
POC		Appear	-		637	642	5
POC		StopTimer	-		7930	7807	-123
POC		StartTimer	-		0	0	0
POC		Click	POC		1617	1565	-52
POC		Appear	-		628	636	8
POC		StopTimer	-		4236	4205	-31



#### 4.1.13 C01.M15\_HNG-X Purchase Scratchcard

The results of purchasing 2 Lottery Scratchcards show that the timings are comparable.

The settlement being the only online part of the transaction and the timing under load being 1541 milliseconds.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC		39	40	1
POC		StartTimer		E2E Time	0	0	0
POC	Retail	Click	POC	Quantity_F15	478	486	8
POC	Quantity_F15	Click	POC	Quantity £1 Instant Win	208	206	-1
POC	Enter £1 Instant Win	Click	POC		229	222	-8
POC		Click	POC	Item	880	896	16
POC	Item	Appear	-	-	621	589	-32
POC		StopTimer			9852	9732	-119
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1577	1541	-35
POC	Item Empty	Appear	-	-	673	648	-25
POC		StopTimer			4220	4137	-83



#### 4.1.14 C01.M16\_HNG-X Purchase Electricity Tokens

The purchasing of Electricity tokens was only conducted under load.

The settlement timing being 9219 milliseconds which includes printing of the receipt.

From Window	Object	Action	To Window	Object	Average
					Under Load
POC	Home	Click	POC	AP Manual Entry	193
POC	AP Manual Entry	Click	POC	Token Type_lbl	334
POC	Token Type_lbl	Appear	-	-	601
POC	Magnetic Card	Click	POC	Token Type_lbl	368
POC	Token Type_lbl Manual Token	Appear	-	-	552
POC	Input	SetValue as 9826121501739808731	-	-	302
POC	Enter	Click	Dialog	MSG10430	486
Dialog	MSG10430	ClickOn Continue	POC	Amount	560
POC	Amount	Appear	-	-	647
POC	Amount	SetValue as 10.00	-	-	99
POC	Enter	Click	POC	Cash	563
POC	Cash	Appear	-	-	596
POC	Cash	Click	POC	AP Manual Entry	780
POC	AP Manual Entry	Appear	-	-	617
POC	Fast Cash	Click	POC	Item Empty	9219
POC	Item Empty	Appear	-	-	643



### 4.1.15 C01.M17\_HNG-X Purchase Premium Bonds

The results of purchasing a Premium Bond show that the timings under load are comparable to those when there is no load. The settlement timing includes the receipt print.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC	Home	197	219	23
POC	Home	StartTimer	POC	E2E Time	0	0	0
POC	AP Manual Entry	Click	POC	Barcode	345	336	-10
POC	Barcode	Click	POC	Manual Token Input	395	387	-8
POC	Manual Token Input	SetValue as 633625001014000000500004	-	-	384	366	-19
POC	Home	Click	POC	Home	444	454	10
POC	Home	StartTimer	POC	E2E Time	495	495	0
POC	AP Manual Entry	Click	POC	Barcode	766	586	-180
POC	Barcode	Click	POC	Manual Token Input	281	287	5
POC	Manual Token Input	SetValue as 633625001014000000500004	-	-	608	574	-34
POC	Enter Barcode/Card Already Used	Click	Dialog	Barcode/Card Already Used	413	469	56
Dialog	Enter Holder / Account No	ClickOn Continue	POC	Enter Holder / Account No	625	815	190
POC	Enter Holder / Account No	Appear	-	-	270	280	10
POC	Enter Holder / Account No	SetValue as 9876543210	-	-	228	237	9
POC	Enter	Click	Dialog	Message Prompt	256	251	-5
Dialog	Message Prompt	Appear	-	-	718	726	8
Dialog	OK	Click	POC	Surname_edt	594	598	3
POC	Surname_edt	SetValue as Gordon	-	-	1304	1679	375
POC	Forename_edt	SetValue as Simon	-	-	511	550	39
POC	Initials_edt	SetValue as S	-	-	800	799	-1
POC	Enter	Click	POC	English	376	349	-27
POC	English	Appear	-	-	637	608	-28
POC	Enter	Click	POC	Addresses_tbl	344	239	-105
POC	Addresses_tbl	Appear	-	-	656	661	5
POC	Enter	Click	POC	Enter phone number	485	480	-5
POC	Enter phone number	SetValue as 02081234567	-	-	613	624	12
POC	Enter	Click	POC	Enter Date of Birth	199	199	-1
POC	Enter Date of Birth	SetValue as 10111970	-	-	600	607	7
POC	Enter	Click	Dialog	Message Prompt	861	879	17
Dialog	Message Prompt	Appear	-	-	628	623	-5
Dialog	OK	Click	POC	Amount	44709	45774	1065
POC	Amount	SetValue as 5000.00	-	-	12	11	-1
POC	Enter	Click	POC	Cash	14302	13958	-344
POC	Cash	Click	POC	Item	669	668	-2
POC	Item	Appear	-	-	16660	16446	-214
POC	StopTimer	-	-	E2E Time	54057	51805	-2252
POC	StartTimer	-	-	E2E Time	179	200	21
POC	Fast Cash	Click	POC	Item Empty	1484	1346	-138
POC	Item Empty	Appear	-	-	349	360	11
POC	StopTimer	-	-	-	2052	1928	-124



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



#### 4.1.16 C01.M18\_HNG-X Purchase 1 Day Fishing License

The results of purchasing a Fishing License show that the timings under load are comparable to those when there is no load. The settlement time includes receipt printing.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC		39	38	-1
POC		StartTimer		E2E Time	0	0	0
POC	Licences & Government	Click	POC	EA First Time	468	395	-74
POC	EA First Time	Click	POC	Salmon & Sea Trout Product	639	517	-123
POC	Salmon & Sea Trout Product	Click	POC	Description_tbl	1232	939	-293
POC	Description_tbl	Appear	-		2120	735	-1384
POC	Enter	Click	POC	Start date	865	939	74
POC	Start date	Appear	-		659	734	76
POC	Start date	SetValue as 05032010	-		154	126	-28
POC	Enter	Click	POC	Enter Start Time	767	644	-123
POC	Enter Start Time	SetValue as 00:00:01	-		124	108	-17
POC	Enter	Click	POC	Date of birth_lbl	674	597	-77
POC	Date of birth_lbl	Appear	-		603	544	-59
POC	Date of Birth	SetValue as 25121990	-		133	104	-29
POC	Enter	Click	POC	Forename_edt	664	644	-20
POC	Forename_edt	SetValue as peter	-		251	231	-19
POC	Enter	Click	POC	Surname_edt	657	620	-37
POC	Surname_edt	SetValue as smith	-		242	222	-20
POC	Enter	Click	POC	English	837	752	-85
POC	English	Appear	-		636	586	-50
POC	Enter	Click	POC	Addresses_tbl	1934	1399	-535
POC	Addresses_tbl	Appear	-		572	541	-30
POC	Enter	Click	POC	Male	1097	856	-241
POC	Male	Click	POC	Cash	764	720	-44
POC	Cash	Click	POC	Item	1142	1043	-99
POC	Item	Appear	-		709	581	-128
POC		StopTimer			53177	48195	-4982
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	13915	14466	551
POC	Item Empty	Appear	-		641	586	-55
POC		StopTimer			16719	16971	252



#### 4.1.17 C01.M19\_HNG-X Post Special Delivery Small Letter

The results of posting a Special delivery Small Letter show that the timings under load are comparable to those when there is no load.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC		47	45	-2
POC		StartTimer		E2E Time	0	0	0
POC	Post Mail Items	Click	POC	Weight	1610	1628	19
POC	Weight	Appear	-	-	573	583	10
POC	Weight	SetValue as 10	-	-	201	201	0
POC	Postcode	SetValue as rg128sn	-	-	245	270	24
POC	Letter	Click	POC	Enter	588	611	23
POC	Enter	Click	POC	Select service then press Enter_tbl	883	877	-6
POC	Select service then press Enter_tbl	Appear	-	-	815	884	68
POC	Enter	Click	Dialog	Postcode Restrictions	1099	1105	6
Dialog	Postcode Restrictions	Appear	-	-	477	518	42
Dialog	Continue	Click	POC	Value of Goods	548	518	-31
POC	Value of Goods	Appear	-	-	577	610	33
POC	Value of Goods	SetValue as 1.00	-	-	81	103	22
POC	Enter	Click	POC	Add-ons_lbl	696	890	194
POC	Add-ons_lbl	Appear	-	-	606	650	44
POC	Enter	Click	POC	English	607	593	-13
POC	English	Appear	-	-	610	644	34
POC	Enter	Click	POC	Addresses_tbl	1290	1270	-20
POC	Addresses_tbl	Appear	-	-	592	603	12
POC	Enter	Click	POC	Barcode_edt	684	694	11
POC	Barcode_edt	Appear	-	-	769	586	-183
POC	Barcode_edt	SetValue as KC123400741GB	-	-	276	310	33
POC	Enter	Click	POC	Stamps_68	1377	1591	214
POC	Stamps_68	Appear	-	-	669	679	11
POC	Stamps_68	Click	POC	Enter	338	346	9
POC	Enter	Click	POC	Item	7522	7793	271
POC	Item	Appear	-	-	597	726	130
POC		StopTimer		E2E Time	50914	52642	1728
POC		StartTimer			0	0	0
POC	Fast Cash	Click	POC	Item Empty	1477	1586	109
POC	Item Empty	Appear	-	-	607	653	46
POC		StopTimer			4015	4230	215



#### 4.1.18 C01.M20\_HNG-X Post Large Letter

The results of Posting a Large Letter show that the timings under load are comparable to those when there is no load.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Home	Click	POC		40	52	12
POC		StartTimer		E2E Time	0	0	0
POC	Postal Services	Click	POC	Post Mail Items	407	451	44
POC	Post Mail Items	Click	POC	Weight	1697	1607	-90
POC	Weight	Appear	-	-	651	602	-49
POC	Weight	SetValue as 101	-	-	208	209	1
POC	Postcode	SetValue as rg12 8sn	-	-	255	264	9
POC	Large Letter	Click	POC	Enter	714	704	-9
POC	Enter	Click	POC	Select service then press Enter_tbl	1040	865	-175
POC	Select service then press Enter_tbl	Appear	-	-	854	818	-36
POC	Enter	Click	POC	Stamps_68	1314	1468	154
POC	Stamps_68	Appear	-	-	736	660	-76
POC	Stamps_68	Click	POC	Yes	268	366	98
POC	Yes	Click	POC	Enter	280	298	18
POC	Enter	Click	POC	Item	6424	6650	226
POC	Item	Appear	-	-	709	597	-112
POC		StopTimer			32608	31795	-813
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1289	1299	10
POC	Item Empty	Appear	-	-	719	633	-86
POC		StopTimer			4191	3845	-346



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.19 C01.M21\_HNG-X Post Letter USA Weighting

The results of posting a Large Letter to USA Weighting show that the timings under load are comparable to those when there is no load.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Load	
POC	Home	Click	POC		42	41	-1
POC		StartTimer		E2E Time	0	0	0
POC	Postal Services	Click	POC	Post Mail Items	515	498	-17
POC	Post Mail Items	Click	POC	History	2514	2324	-190
POC	History	Appear	-	-	632	589	-42
POC	Weight	SetValue as 100	-	-	227	224	-3
POC	Change Country	Click	POC	USA	854	1046	193
POC	USA	Appear	-	-	650	649	-1
POC	USA	Click	POC	Letters & Postcards	1542	1503	-39
POC	Letters & Postcards	Appear	-	-	635	647	11
POC	Letters & Postcards	Click	POC	Enter Select service then press Enter_tbl	1118	911	-207
POC	Enter Select service then press Enter_tbl	Click	POC	Enter Select service then press Enter_tbl	1447	1526	80
POC	Enter	Appear	-	-	840	888	47
POC	Enter	Click	Dialog	MSG99905	1438	1581	143
Dialog	MSG99905	ClickOn Continue	POC	Value of Goods	795	840	46
POC	Value of Goods	Appear	-	-	623	675	52
POC	Value of Goods	SetValue as 100.00	-	-	137	139	1
POC	Enter	Click	POC	Weight_81	1444	1503	59
POC	Weight_81	Appear	-	-	704	699	-4
POC	Enter	Click	POC	Premises_lbl	1009	1216	207
POC	Premises_lbl	Appear	-	-	634	588	-45
POC	Enter	Click	POC	Barcode_edt	1207	1244	36
POC	Barcode_edt	SetValue as LY123400755GB	-	-	358	358	1
POC	Enter	Click	POC	Print Label	1913	2034	121
POC	Print Label	Appear	-	-	705	699	-6
POC	Stamps_68	Click	POC	Enter	363	354	-9
POC	Enter	Click	POC	Item	12951	13192	242
POC	Item	Appear	-	-	625	644	19
POC		StopTimer			74685	75452	767
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	1651	1668	17
POC	Item Empty	Appear	-	-	636	614	-22
POC		StopTimer			4405	4312	-93



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.20 C01.M22\_HNG-X Packet

The results of posting a packet show that the timings under load are comparable to those when there is no load.

The transaction includes printing a pre-paid label.

From Window	Object	Action	To Window	Object	Average		
					No Load	Load	Difference
POC	Insert Label	Message	POC	Home	194	199	5
POC	Home	Click	POC		29	34	5
POC		StartTimer		E2E Time	0	0	0
POC	Postal Services	Click	POC	Post Mail Items	475	437	-38
POC	Post Mail Items	Click	POC	Weight	1625	1813	189
POC	Weight	Appear	-		591	552	-39
POC	Weight	SetValue as 280	-		210	214	3
POC	Postcode	SetValue as rg128sn	-		258	235	-23
POC	Packet	Click	POC	Enter	613	836	223
POC	Enter		POC	Select service then press			
	Select service then press	Click	POC	Enter_tbl	1002	968	-34
POC	Enter_tbl	Appear	-		842	824	-18
POC	Enter	Click	Dialog	Postcode Restrictions	1170	1648	478
Dialog	Postcode Restrictions	Appear	-		498	457	-41
Dialog	Continue	Click	POC	Value of Goods	597	613	16
POC	Value of Goods	Appear	-		591	559	-32
POC	Value of Goods	SetValue as 1.00	-		89	87	-2
POC	Enter	Click	POC	Add-ons_lbl	714	770	57
POC	Add-ons_lbl	Appear	-		626	614	-12
POC	Add/ Remove_53	Click	POC	Enter	711	714	3
POC	Enter	Click	POC	English	651	821	170
POC	English	Appear	-		618	634	16
POC	English	Click	POC		91	98	6
POC	Enter	Click	POC	Addresses_tbl	1278	2195	917
POC	Addresses_tbl	Appear	-		560	572	12
POC	Enter	Click	POC	Barcode_edt	717	706	-11
POC	Barcode_edt	SetValue as	KC123409958GB		1658	290	-1367
POC	Enter	Click	POC	Pre-paid	1213	1860	647
POC	Pre-paid	Appear	-		686	715	29
POC	Pre-paid	Click	POC	Enter	396	365	-31
POC	Enter	Click	POC	Pre-paid Amount	627	685	58
POC	Pre-paid Amount	Appear	-		498	626	127
POC	Pre-paid Amount	SetValue as 0.50	-		209	138	-72
POC	Enter	Click	POC	Print Label	665	797	132
POC	Print Label	Appear	-		555	700	146
POC	Print Label	Click	POC	Enter	909	410	-499
POC	Enter	Click	Dialog	Confirm Print Successful	3805	5510	1704
Dialog	Confirm Print Successful	Appear	-		587	392	-196
Dialog	Yes	Click	SysMsg	Printing	2108	2919	811
SysMsg	Printing	Appear	-		722	446	-277
POC	Item	Appear	-		13647	4502	-9145
POC		StopTimer		E2E Time	55242	76224	20982
POC		StartTimer			252	0	-252
POC	Fast Cash	Click	POC	Item Empty	1674	2084	410
POC	Item Empty	Appear	-		1152	584	-568
POC		StopTimer			3128	4665	1537



#### 4.1.21 C01.M23\_HNG-X Bulk Post

The Bulk Post transaction cuts off the Postal Services Despatch before conducting the actual Bulk Post (which starts on row 11), this is to ensure that the Postal Service barcodes can be re-used. The action 'Message' on row 14 indicates a Winrunner message, which is used to more accurately indicate the time of the scan of the first barcode.

The Bulk Post transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Average
					Under Load
POC	Home	Click	POC	Back Office PS Despatch	182
POC	Back Office	Click	POC	Branch	375
POC	PS Despatch	Click	POC	All Carriers	333
POC	Branch	Click	POC	Cut Off	399
POC	All Carriers	Click	POC	MSG90903	1087
POC	Cut Off	Click	Dialog	MSG90903	486
Dialog	MSG90903	Appear	-	-	361
Dialog	No	Click	POC	Branch	618
POC	Branch	Appear	-	-	595
POC	Front Office	Click	POC	Home Postal Services	441
POC	Home	Click	POC	Postal Services	201
POC	Postal Services	Click	POC		290
POC	RM Speedbulk Barcode_edt Speed Bulk Post	StartTimer		E2E Time	0
POC		Click	POC	Barcode_edt	2841
POC		Appear	-	-	537
POC	Facility	Message	POC	Enter	193
POC	Enter	Click	POC	Item	1129
POC	Item	Appear	-	-	699
SysMsg	Printing	Appear	-	-	1341
POC	Home	StopTimer			21885
POC		Click	POC		30
POC		StartTimer		E2E Time	0
POC	Item	Appear	-	-	7639
POC	Settle	Click	POC	Item Empty	1766
POC	Item Empty	Appear	-	-	583
POC		StopTimer			4819



#### 4.1.22 C01.M24\_HNG-X Pay Bill

The results of paying a Barcoded Bill show that the timings under load are comparable to those when there is no load. The settlement timing includes the receipt print.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Home	Click	POC	Home	189	209	19
POC	Home	Message	POC	Home	165	341	176
POC	Home	StartTimer		E2E Time	0	0	0
POC	Amount	Appear	-		3932	3924	-8
POC	Amount	SetValue as 100.00	-		121	135	14
POC	Enter	Click	POC	Cash	542	703	161
POC	Cash	Appear	-		583	589	6
POC	Cash AP Manual Entry	Click	POC	AP Manual Entry	765	887	122
POC	AP Manual Entry	Appear	-		631	624	-7
POC		StopTimer			7632	7947	316
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	8052	7503	-549
POC	Item Empty	Appear	-		605	614	9
POC		StopTimer			10594	10081	-513



#### 4.1.23 C01.M25\_HNG-X Freedom Passes

The results of applying for a Freedom Pass show that the timings under load are comparable to those when there is no load.

From Window	Object	Action	To Window	Object	Average	
					No Load	Loaded
POC	Home	Click	POC	AP Manual Entry	201	210
POC	AP Manual Entry	Click	POC	Barcode	328	328
POC	Barcode	Appear	-	-	551	555
POC	Barcode	Click	POC	Manual Token Input	378	363
POC	Manual Token Input	SetValue as 98269435000000000950005	-	ELDERLY Freedom	362	365
POC					498	483
Dialog	MSG10430	ClickOn Continue	POC	Pass	583	421
POC	ELDERLY Freedom	Appear	-	-	591	583
POC	Pass	Click	POC	Product Description_tbl	826	814
POC	ELDERLY Freedom	Appear	-	-	638	632
POC	Pass	SetValue as 32	-	-	223	239
POC	Description_edt	Click	Dialog	MSG10800	810	811
POC	Enter	Appear	-	-	416	411
Dialog	MSG10800	Click	POC	Date of Birth	553	538
Dialog	OK	Appear	-	-	563	555
POC	Date of Birth	Click	-	-	118	108
POC	Date of Birth	SetValue as 01011945	-	-	662	652
POC	Enter	Click	POC	Birth Certificate	614	583
POC	Birth Certificate	Appear	-	-	929	704
POC	Birth Certificate	Click	POC	Utility Bill	646	631
POC	Utility Bill	Appear	-	-	725	703
POC	Utility Bill	Click	POC	Surname_edt	589	617
POC	Surname_edt	Appear	-	-	228	229
POC	Surname_edt	SetValue as Lowe	-	-	228	224
POC	Forename_edt	SetValue as John	-	-	868	663
POC	Enter	Click	POC	Select Customers	599	614
POC	Select Customers	Gender	POC	Gender	818	750
POC	Gender	Appear	-	-	612	597
POC	Male	Click	POC	Customer	279	264
POC	Customer	Appear	-	-	228	226
POC	JTextField_0	SetValue as RG128SN	-	-	1470	1402
POC	JTextField_1	SetValue as 1	-	-	559	548
POC	Enter	Click	POC	Addresses_tbl	926	890
POC	Addresses_tbl	Appear	-	-	416	395
POC	Enter	Click	Dialog	MSG10802	681	658
Dialog	MSG10802	Appear	-	-	638	689
Dialog	OK	Click	POC	Amount	239	242
POC	Amount	Appear	-	-	839	831
POC	Amount	SetValue as WES	-	-	672	659
POC	Enter	Click	POC	British	801	953
POC	British	Appear	-	-	648	837
POC	British	Click	POC	British_1	832	825
POC	British_1	Appear	-	-	417	411
POC	Enter	Click	Dialog	MSG10802	44	41
Dialog	MSG10802	Appear	-	-	5493	5462
POC	Home	Click	POC	E2E Time	2713	10832
POC	StartTimer	StartTimer	-	-	102	402
POC	Item	Appear	-	-	0	0
POC	Home	Click	POC	E2E Time	5493	5462
POC	StartTimer	StartTimer	-	-	2713	10832



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.24 C01.M26\_HNG-X Moneygram

The MoneyGram Send transaction is comparable when under load to when there is no load

From Window	Object	Action	To Window	Object	Averages		Difference
					No Load	Under Load	
POC	Home	Click	POC		39	30	-9
POC		StartTimer		E2E Time	0	0	0
POC	Banking	Click	POC	MoneyGram	507	477	-30
POC	MoneyGram	Click	POC	MoneyGram Send			
POC	MoneyGram Send			Ordinary	814	586	-227
POC	Ordinary						
POC	Receive Country Code	Click	POC	Receive Country Code	1331	1021	-310
POC	Receive Country Code	Appear	-	-	554	542	-13
POC	Enter	SetValue as deu	-	-	209	206	-4
POC	£ including fee	Click	POC	£ including fee	2061	1928	-133
POC	EURO	Click	POC	EURO	956	680	-275
POC	Amount in £	Appear	POC	Amount in £	764	656	-108
POC	Amount in £	SetValue as 100.81	-	-	554	509	-45
POC	Enter	Click	Dialog	Confirm Amounts	114	97	-17
Dialog	Confirm Amounts	Appear	Dialog	Confirm Amounts	3517	3392	-125
Dialog	Continue	Click	Dialog	Payment Received?	367	351	-17
Dialog	Payment Received?	Continue	Dialog	Payment Received?	825	684	-141
Dialog	Sender's First Name	Click	POC	Sender's First Name	382	345	-37
POC	Sender's First Name	Appear	-	-	1123	707	-416
POC	Sender's First Name	SetValue as mark	-	-	584	546	-38
POC	Sender's Middle Initial	Enter	POC	Sender's Middle Initial	234	219	-14
POC	Sender's Middle Initial	SetValue as c	-	-	1072	981	-91
POC	Enter	Click	POC	Sender's Last Name	596	564	-32
POC	Sender's Last Name	Appear	-	-	212	205	-7
POC	Sender's Last Name	SetValue as Graham	-	-	1082	748	-334
POC	Enter	Click	POC	Senders Telephone No	594	587	-7
POC	Senders Telephone No	Appear	-	-	267	248	-19
POC	Senders Telephone No	SetValue as 02083210085	-	-	896	770	-126
POC	Enter	Click	POC	Senders Telephone No	300	261	-38
POC	English	Appear	POC	English	4818	5022	205
POC	Enter	Click	POC	Addresses_tbl	625	589	-36
POC	Addresses_tbl	Appear	-	-	1711	1638	-73
POC	Enter	Click	POC	Receiver's First Name	535	505	-30
POC	Receiver's First Name	Appear	-	-	1344	1330	-14
POC	Receiver's First Name	SetValue as james	-	-	571	529	-42
POC	Enter	Click	POC	Receiver's Middle Initial	244	226	-18
POC	Receiver's Middle Initial	Appear	-	-	850	768	-82
POC	Receiver's Middle Initial	SetValue as r	-	-	623	574	-49
POC	Enter	Click	POC	Receiver's Last Name	232	233	1
POC	Receiver's Last Name	Appear	-	-	883	792	-91
POC	Receiver's Last Name	SetValue as morgan	-	-	573	571	-2
POC	Enter	Click	POC	Receivers 2nd Last Name	282	264	-18
POC	Receivers 2nd Last Name	Appear	-	-	939	812	-127
POC	Receivers 2nd Last Name	SetValue as francisco	-	-	600	575	-25
POC	Name	Enter	-	-	423	378	-46
POC	Cabanillas	Click	Dialog	Test Question Provided	1308	972	-336
Dialog	Test Question Provided	Appear	-	-	446	342	-103
Dialog	Yes	Click	POC	Test Question	971	1030	59
POC	Test Question	Appear	-	-	601	593	-8
POC	Test Question	SetValue as country of birth	-	-	419	353	-66
POC	Enter	Click	POC	Test Answer	633	596	-38
POC	Test Answer	Appear	-	-	351	323	-29
POC	Test Answer	SetValue as new zealand	-	-	1015	898	-117
POC	Enter	Click	POC	Sender Message	636	615	-21
POC	Sender Message	Appear	-	-	418	378	-40
POC	Sender Message	SetValue as invoice 123456	-	-	1039	920	-119
Dialog	Liability Warning	Enter	Dialog	Liability Warning	378	400	22
Dialog	Continue	Appear	SysMsg	Printing	8428	7686	-742
SysMsg	Printing	Click	-	-	485	353	-112
SysMsg	Printing	Appear	-	-	6634	4846	-1789
POC	Item	Vanish	-	-	20053	17798	-2256
POC	StopTimer	Appear	-	-	132727	122235	-10492
POC	StartTimer	Click	POC	E2E Time	0	0	0
POC	Fast Cash	Appear	-	Item Empty	1611	1429	-181
POC	Item Empty	StopTimer	-	-	623	556	-67
POC			-	-	4164	3879	-265



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.25 C01.M27\_HNG-X Travel Insurance

The Travel Insurance transaction sells a single trip policy for two people to Norway Europe without Winter Sport Cover  
The Travel Insurance transaction is comparable when under load to when there is no load.

From Window	Object	Action	To Window	Object	Average		Under Load
					No Load	Under Load	
POC	Home	Click	POC	Home	194	198	4
POC	Home	Message	POC	Home	282	311	29
POC	Home	StartTimer	POC	Single Trip Cover	0	0	0
Dialog	Barcode/Card Already Used	ClickOn Continue	POC	Single Trip Cover	421	461	40
POC	Single Trip Cover	Appear	-	-	597	559	-38
POC	Single Trip Cover	Click	POC	Product Description_tbl	927	929	2
POC	Product Description_tbl	Appear	-	-	717	734	17
POC	Enter	Click	POC	Number of Travellers 18-54	767	747	-20
POC	Number of Travellers 18-54	Appear	-	-	582	588	6
POC	Number of Travellers 18-54	SetValue as 2	-	-	197	195	-2
POC	Enter	Click	POC	Number of Travellers 55-64	729	709	-20
POC	Number of Travellers 55-64	Appear	-	-	643	684	41
POC	Number of Travellers 55-64	SetValue as 0	-	-	204	198	-6
POC	Enter	Click	POC	Destination Country	767	744	-23
POC	Destination Country	Appear	-	-	625	614	-11
POC	Destination Country	SetValue as norway	-	-	238	253	15
POC	Enter	Click	POC	Europe	683	666	-17
POC	Europe	Appear	-	-	601	756	155
POC	Europe	Click	POC	Departure Date	651	674	23
POC	Departure Date	SetValue as 01122010	-	-	134	128	-6
POC	Enter	Click	POC	Return Date	677	684	7
POC	Return Date	SetValue as 21122010	-	-	142	183	41
POC	Enter	Click	Dialog	MSG10802	717	769	52
Dialog	MSG10802	Appear	-	-	447	456	9
Dialog	OK	Click	POC	Promotion Code (if any)_lbl	450	478	28
POC	Enter	Click	Dialog	Promotion Code (if any)_lbl	815	851	36
Dialog	Winter Sports Cover	ClickOn No	POC	Winter Sports Cover	669	739	70
POC	Promotion Code (if any)_lbl	Appear	-	-	629	624	-5
POC	Enter	Click	Dialog	Quote	2284	2939	655
Dialog	Quote	Appear	-	-	462	413	-49
Dialog	Yes	Click	Dialog	Multi trip	785	766	-19
Dialog	Multi trip	Appear	-	-	463	458	-5
Dialog	Yes	Click	Dialog	Statement	685	701	16
Dialog	Statement	Appear	-	-	505	408	-97
Dialog	OK	Click	POC	Policy Holder's Age_edt	659	716	57
POC	Policy Holder's Age_edt	SetValue as 30	-	-	222	230	8
POC	Enter	Click	POC	Policy Holder D.O.B	795	796	1
POC	Policy Holder D.O.B	Appear	-	-	607	639	32
POC	Enter	Click	POC	Surname_edt	837	899	62
POC	Surname_edt	SetValue as jenkins	-	-	292	285	-7
POC	Initials_edt	SetValue as m	-	-	232	238	6
POC	Ms	Click	POC	Enter	356	323	-33
POC	Enter	Click	POC	English	965	994	29
POC	English	Appear	-	-	637	664	27
POC	Enter	Click	POC	Addresses_tbl	2091	1550	-541
POC	Addresses_tbl	Appear	-	-	619	636	17
POC	Enter	Click	POC	Enter	1053	1067	14
POC	Enter	Click	POC	Policy Holder's Age_edt	883	854	-29
POC	Policy Holder's Age_edt	SetValue as 30	-	-	216	223	7
POC	Enter	Click	POC	Policy Holder D.O.B	877	909	32
POC	Policy Holder D.O.B	Appear	-	-	667	614	-53
POC	Enter	Click	POC	Surname_edt	970	929	-41
POC	Surname_edt	SetValue as jenkins	-	-	354	316	-38
POC	Initials_edt	SetValue as V	-	-	260	276	16
POC	Ms	Click	POC	Enter	371	356	-15
POC	Enter	Click	Dialog	Marketing Consent	907	904	-3
Dialog	Marketing Consent	Appear	-	-	419	499	80
Dialog	Yes	Click	Dialog	Statement	791	761	-30
Dialog	Statement	Appear	-	-	401	400	-1
Dialog	OK	Click	POC	Cash	892	922	30
POC	Cash	Appear	-	-	839	826	-13
POC	Cash	Click	POC	Item	1263	1289	26
POC	Item	Appear	-	-	685	726	41
POC	StopTimer			E2E Time	108484	109400	916
POC	StartTimer			E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	29526	29715	189
POC	Item Empty	Appear	-	-	671	591	-80
POC	StopTimer			Item Empty	32120	32361	241



#### 4.1.26 C01.M28\_HNG-X Purchase Foreign Currency

There are several ways to perform a bureau sale foreign currency transaction.

The results displayed here are for selling Euros by the amount specified in British pounds. This transaction was chosen so that it can be compared against the most recent Horizon video timings.

The Purchase of Foreign Currency transaction is comparable when under load to when there is no load.

Results have also been collected for selling U.S dollars specifying a dollar amount rather than British pounds with similar timings.

From Window	Object	Action	To Window	Object	Average		Difference
					No Load	Under Load	
POC	Home	Click	POC		46	42	-4
POC		StartTimer		E2E Amount In GBP	0	0	0
POC	Sell Euros Amount In GBP	Click	POC	Amount In GBP	711	725	14
POC	Amount In GBP	Appear	-	-	583	603	20
POC	Amount	Click	POC	Amount	611	788	177
POC	Amount	Appear	-	-	598	625	27
POC	Amount	SetValue as 200.00	-	-	147	150	3
POC	Enter	Click	POC	Sell*_22	620	595	-25
POC	Sell*_22	Appear	-	-	594	578	-16
POC	Sell*_22	Click	POC	Summary_tbl	908	837	-71
POC	Summary_tbl	Appear	-	-	634	634	0
POC	Enter	Click	POC	Travel	1003	1032	29
POC	Travel	Appear	-	-	636	685	49
POC		StopTimer			16104	16199	95
POC		StartTimer		E2E Time	0	0	0
POC	Fast Cash	Click	POC	Item Empty	9117	8922	-195
POC	Item Empty	Appear	-	-	696	643	-53
POC		StopTimer			11866	11550	-316



#### 4.1.27 C01.M29\_HNG-X Purchase Foreign Currency in Travellers Cheques

The Sale of Foreign Currency in Travellers Cheques, sells Euros with the amount specified in British pounds.

The Sale of Foreign Currency in Travellers Cheques transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Average Under Load
POC	Home	Click	POC		42
POC		StartTimer		E2E	0
POC	Sell Euros	Click	POC	Amount In GBP	725
POC	Amount In GBP	Appear	-	-	603
POC	Amount In GBP	Click	POC	Amount	788
POC	Amount	Appear	-	-	625
POC	Amount	SetValue as 200.00	-	-	150
POC	Enter	Click	POC	Sell*_22	595
POC	Sell*_22	Appear	-	-	578
POC	Sell*_22	Click	POC	Summary_tbl	837
POC	Summary_tbl	Appear	-	-	634
POC	Enter	Click	POC	Travel	1032
POC	Travel	Appear	-	-	685
POC		StopTimer			16199
POC		StartTimer		E2E Time	0
POC	Fast Cash	Click	POC	Item Empty	8922
POC	Item Empty	Appear	-	-	643
POC		StopTimer			11550



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.28 C01.M30\_HNG-X Purchase Pre-Order Foreign Currency

The sale of Pre-Order Foreign Currency creates an order for Euro currency and then submits the order.  
 The Pre-order Foreign Currency transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Averages
POC	Home	Click	POC		32
POC		StartTimer			0
POC	Travel	Click	POC	E2E	446
POC	PreorderService	Click	POC	Create Order	537
POC	Create Order	Click	Dialog	MSG10802	935
Dialog	OK	Click	POC	Amount	628
POC	Amount	SetValue as FRA	-	-	206
POC	Enter	Click	Dialog	MSG10802	1534
Dialog	OK	Click	POC	Currency Options_lbl	779
POC	Euro	Click	POC	Currency Input	658
POC	Sterling	Click	POC	Amount	642
POC	Amount	SetValue as 500.00	-	-	135
POC	Enter	Click	POC	Select Rounding	818
POC	Sell EUR	Click	Dialog	MSG10800	954
Dialog	Yes	Click	POC	Method of Payment_lbl	648
POC	Cash	Click	Dialog	MSG10802	2325
Dialog	OK	Click	POC	Total Due From Customer	5085
POC		StartTimer		E2E Time	0
POC	Fast Cash	Click	POC	Item Empty	1289
POC		StopTimer			3612
POC	Travel	Click	POC	PreorderService	472
POC	PreorderService	Click	POC	Submit Order	543
POC	Submit Order	Click	POC	Amount	965
POC	Amount	SetValue as PBL1019137	-	-	269
POC	Enter	Click	Dialog	MSG10802	1653
Dialog	OK	Click	Dialog	MSG10802	712
Dialog	OK	Click	POC	Surname_edt	725
POC	Surname_edt	SetValue as Blah	-	-	232
POC	Forename_edt	SetValue as Bobby	-	-	236
POC	Enter	Click	POC	English	790
POC	Enter	Click	POC	Addresses_tbl	1353
POC	Enter	Click	POC	Amount	876
POC	Amount	SetValue as 02081234567	-	-	182
POC	Enter	Click	POC	Email Address	683
POC	Enter	Click	Dialog	MSG10800	708
Dialog	No	Click	Dialog	MSG10800	822
Dialog	No	Click	Dialog	MSG10800	673
Dialog	Yes	Click	SysMsg	Printing	4663
POC	Home	Click	POC		27
POC		StartTimer		E2E Time	0
POC	Settle	Click	POC	Item Empty	1154
POC		StopTimer			4018



#### 4.1.29 C01.M31\_HNG-X Foreign Currency Buy Back

The Foreign Currency Buy Back transaction buys back 200 US Dollars.

The Foreign Currency Buy Back transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Average Under Load
POC	Home	Click	POC		35
POC		StartTimer		E2E US	0
POC	Travel US	Click	POC	Dollar_23	454
POC	Dollar_23	Click	POC		383
POC		StopTimer		E2E	4085
POC	Amount in £	Appear SetValue as 200.00	-	-	2665
POC	Amount in £	StartTimer		E2E	80
POC	Enter	Click	POC	Summary_tbl	577
POC	Summary_tbl	Appear	-	-	527
POC	Enter	Click	POC	Travel	667
POC	Travel	Appear	-	-	598
POC		StopTimer			5573
POC		StartTimer		E2E Time	0
POC	Fast Cash	Click	POC	Item Empty	6876
POC	Item Empty	Appear	-	-	549
POC		StopTimer			9239



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.30 C01.M32\_HNG-X Remittance Acceptance

The Remittance Acceptance transaction accepts a Cash remittance.

The Remittance Acceptance transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Average Under Load
POC	Home	Click	POC		30
POC		StartTimer		E2E Time	0
POC	Back Office	Click	POC	Back Office Home	423
POC	Back Office Home	Appear	-	-	534
POC	Rems & Transfers	Click	POC	Delivery	403
POC	Delivery	Appear	-	-	576
POC	Delivery	Click	POC	Pouch Barcode 1_edt	395
POC	Pouch Barcode 1_edt	Appear	-	-	526
POC	Pouch Barcode 1_edt	SetValue as 301200000662	-	-	260
POC	Enter Auto-Remittance Data Error	Click	Dialog	Auto-Remittance Data Error	2100
Dialog	Auto-Remittance Data Error	Appear	-	-	396
Dialog	Manual	Click	POC	Cash Value_edt	366
POC	Cash Value_edt	Appear	-	-	590
POC	Cash Value_edt	SetValue as 1000.00	-	-	132
POC	Cash Value Confirmation_edt	SetValue as 1000.00	-	-	110
POC	Enter	Click	POC	Pouch Barcode 2_edt	457
POC	Pouch Barcode 2_edt	Appear	-	-	540
POC	Enter	Click	POC	Print	516
POC	Print	Click	SysMsg	Printing	2541
SysMsg	Printing	Appear	-	-	399
Dialog	Remove Receipt	Appear	-	-	3277
Dialog	Continue	Click	SysMsg	Printing	2405
SysMsg	Printing	Appear	-	-	414
SysMsg	Printing	Vanish	-	-	2571
POC	Print	Appear	-	-	700
POC	Enter	Click	POC	New	4924
POC	New	Appear	-	-	570
POC	Front Office	Click	POC	Front Office Home	463
POC	Front Office Home	Appear	-	-	609
POC	Home	StopTimer			45485



#### 4.1.31 C01.M33\_HNG-X Remittance Rejection

The Remittance Rejection transaction reverses a remittance.

The Remittance Rejection transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Average Under Load
POC	Home	Click	POC	Back Office	229
POC	Back Office	Click	POC	Back Office Home	449
POC	Back Office Home	Appear	-	-	650
POC	Rems & Transfers	Click	POC	Out to ADC	429
POC	Out to ADC	Click	POC	Usable & Unusable.	504
POC	Usable & Unusable.	Click	POC	Notes_Denomination_tbl	876
POC	Notes_Denomination_tbl	Appear	-	-	736
POC	Enter	Click	POC	Settle	1065
POC	Settle	Click	POC	Barcode_edt	396
POC	Barcode_edt	Appear SetValue as 302100011352	-	-	632
POC	Barcode_edt	-	-	-	273
POC	Enter	Click	Dialog	MSG00557	5653
Dialog	MSG00557	Appear	-	-	426
Dialog	Continue	Click	POC	New	4864
POC	New	Appear	-	-	608
POC	Home	Click	POC	Rems & Transfers	191
POC	Rems & Transfers	Click	POC	Reverse_24	392
POC	Reverse_24	Click	POC	Pouch Barcode 1_edt	413
POC	Pouch Barcode 1_edt	Appear SetValue as 302100011352	-	-	582
POC	Pouch Barcode 1_edt	-	-	-	258
POC	Enter	Click	POC	New	7853
POC	New	Appear	-	-	669



#### 4.1.32 C01.M34\_HNG-X Transaction Correction for a Remittance Shortage

The transaction Correction for Remittance Shortage transaction was not run.

#### 4.1.33 C01.M35\_HNG-X Spoiled Postal Orders

The Spoiling of a Postal Order transaction was conducted under load only.

From Window	Object	Action	To Window	Object	Average
					Under Load
Dialog	Insert Slip	Message	POC	Home	189
POC	Home	Click	POC		42
POC		StartTimer		E2E Time	0
POC	AP Manual Entry	Click	POC	Barcode Manual Token	339
POC	Barcode Manual Token Input	Click	POC	Input	366
POC	Manual Token Input	SetValue as 98269365112099994234	-	-	333
POC	Enter Spoil Postal Order	Click	POC	Spoil Postal Order Reversal	565
POC	Spoil Postal Order	Click	Dialog	Reminder	950
Dialog	OK	Click	Dialog	Insert Slip	840
Dialog	Print	Click	Dialog	Remove Slip	5229
Dialog	Continue	Click	POC	Item	693
POC		StopTimer			21811
POC	Home	Click	POC		41
POC		StartTimer		E2E Time	0
POC	Settle	Click	POC	Item Empty	5029
POC		StopTimer			8071



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.34 C01.M36\_HNG-X Stock Unit Reports

Two individual reports were conducted as part of Stock Unit Reports. A Balance Snapshot and Foreign Currency Holding Report both were conducted under load.

#### Balance Snapshot Report

The majority of the transaction time is spent printing the report where 177 Lines were printed on the report

*Note: 35 Rows were returned from the SQL query at the data centre for this transaction*

Object	Action	To Window	Object	Average
				Under Load
Home	Click	POC		33
	StartTimer		E2E Time	0
Back Office	Click	POC	Back Office Home	398
Stock Balancing	Click	POC	Snapshot	465
Snapshot	Click	POC	Print	379
Print	Click	Dialog	Printing	3443
Enter	Click	POC	Front Office	552
Front Office	Click	POC		344
	StopTimer			24296

#### Foreign Currency Holdings Report

The Results of the Foreign Currency Holding Report are shown below. The bulk of the time is spent retrieving data from the Counter Daily Report Group which equates to 7131 milliseconds.

Object	Action	To Window	Object	Average
				Under Load
Home	Click	POC	Back Office	177
Back Office	Click	POC	Reports	359
Reports	Click	POC	Daily	380
Daily	StartTimer		E2E Time	0
Daily	Click	POC	Foreign Currency Holdings	7131
Foreign Currency Holdings	Click	POC	Print	423
Print	Click	Dialog	Printing	1289
Enter	Click	POC	Foreign Currency Holdings	796
Foreign Currency Holdings	StopTimer		E2E Time	18755
Enter	Click	POC	Home	508
Home	Click	POC	Front Office	351



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.35 C01.M37\_HNG-X Office Reports

Three Reports were conducted as part of the Office Reports, Office Snapshot, Sales Report and Transaction Log Report all performed under load.

#### Office Snapshot Report

The majority of the transaction time is spent printing the report where 177 Lines were printed on the report

*Note: 35 Rows were returned from the SQL query at the data centre for this transaction*

Object	Action	To Window	Object	Average Under Load
Home	Click	POC		44
	StartTimer		E2E Time	0
Back Office	Click	POC	Back Office Home	417
Office Balancing	Click	POC	Office Snapshot	355
Office Snapshot	Click	POC	Print	452
Print	Click	Dialog	Printing	3615
Enter	Click	POC	Front Office	488
Front Office	Click	POC		303
	StopTimer			24458

#### Sales Report

The Results of the Sales Report are shown below. The bulk of the time is spent printing the report.

Object	Action	To Window	Object	Average Under Load
Home	Click	POC	Back Office	206
Back Office	Click	POC	Reports	433
Reports	Click	POC	Sales	433
Sales	StartTimer		E2E Time	0
Sales	Click	POC	Date Range	481
Date Range	Click	POC	Date From_edt	486
Date From_edt	SetValue as 130510	-	-	108
Enter	Click	POC	Date To_edt	500
Date To_edt	SetValue as 130510	-	-	104
Enter	Click	POC	Print	543
Print	Click	Dialog	Printing	3113
Enter	Click	POC	Sales	649
Sales	StopTimer		E2E Time	25929



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



**Transaction Log Report**

Object	Action	To Window	Object	Average Under Load
Home	Click	POC	1st Large	247
1st Large	Click	POC	Item	737
Fast Cash	Click	POC	Item Empty	1578
Back Office	Click	POC	Reports	376
Reports	Click	POC	Transaction Log	377
Transaction Log	StartTimer		E2E Time	0
Transaction Log	Click	POC	Criteria_lbl	433
Date From	Click	POC	Date From_edt	505
Date From_edt	SetValue as 130510	-	-	94
Enter	Click	POC	Date To	649
Date To	Click	POC	Date To_edt	613
Date To_edt	SetValue as 130510	-	-	97
Enter	Click	POC	Time From	783
Time From	Click	POC	Time From_edt	745
Time From_edt	SetValue as 1132	-	-	91
Enter	Click	POC	Time To	883
Time To	Click	POC	Time To_edt	894
Time To_edt	SetValue as 1143	-	-	90
Enter	Click	POC	Enter	1042
Enter	Click	POC	Print	3442
Print	Click	Dialog	Printing	1786
Enter	Click	POC	Transaction Log	1201
Transaction Log	StopTimer		E2E Time	47836
Home	Click	POC	Front Office	364



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



#### 4.1.36 C01.M38\_HNG-X Logon

Logging on to the counter was conducted with no load and under load with comparable results.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC	Touch Screen or Press Enter to Continue Agreement Continue Username Password Enter Previous Login Details Continue Chip & PIN	StartTimer Click Appear Click SetValue as man001 SetValue as password Click Appear Click Appear	Dialog - Log On - - Dialog - POC -	E2E Time Agreement Username - - Previous Login Details - Chip & PIN -	0	0	0
					430	415	-16
					435	387	-48
					394	388	-6
					192	200	8
					223	229	5
					5241	5822	581
					489	377	-112
					925	698	-227
					978	578	-400

#### 4.1.37 C01.M39\_HNG-X Logoff

Logging off from the counter was conducted with no load and under load with comparable results.

From Window	Object	Action	To Window	Object	Average		
					No Load	Under Load	Difference
POC		StopTimer		E2E Time	16289	20414	4124
POC		StartTimer		Confirm Logout	0	0	0
POC	Logout Confirm Logout	Click	Dialog	Touch Screen or Press Enter to Continue	853	898	45
Dialog		Appear	-		452	381	-72
Dialog	Yes	Click	Welcome		1315	1288	-27



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



### 4.1.38 C01.M40\_HNG-X Help

#### Help Index

The following results show the timings for operations conducted on the Help Index Menu

Object	Action	To Window	Object	Average
Home	Click	POC	Screen Title	206
Help	Click	Preview	Help Screen	639
Verify Help Screen Details	Message	Preview	Help Home	223
Help Home	Click	Preview	Help Screen	228
Verify Help Screen Details	Message	Preview	Close	214
Close	Click	POC	Stamps	314
Banking	Click	POC	Manual Entry	472
Manual Entry	Click	POC	Screen Title	334
Help	Click	Preview	Help Screen	653
Verify Help Screen Details	Message	Preview	Help Home	183
Help Home	Click	Preview	Help Screen	194
Verify Help Screen Details	Message	Preview	Close	180
Close	Click	POC	Screen Title	234

#### Help Navigation

The following results show the timings for Help when accessing help from within a transaction.

Object	Action	To Window	Object	Average
Home	Click	POC	Screen Title	200
Postal Services	Click	POC	RM Speedbulk	450
Help	Click	Preview	Help Screen	600
Help Screen	Message	Preview	Help Screen	206
Help Screen	Message	Preview	Help Screen	200
Help Screen	Message	Preview	Help Screen	198
Help Screen	Message	Preview	Back	201
Back	Click	Preview	Help Screen	212
Help Screen	Message	Preview	Help Screen	206
Help Screen	Message	Preview	Back	197
Back	Click	Preview	Help Screen	215
Help Screen	Message	Preview	Back	202
Back	Click	Preview	Help Screen	234
Help Screen	Message	Preview	Back	200
Back	Click	Preview	Help Screen	213
Help Screen	Message	Preview	Forward	196
Forward	Click	Preview	Help Screen	233
Help Screen	Message	Preview	Forward	201
Forward	Click	Preview	Help Screen	210
Help Screen	Message	Preview	Forward	197
Forward	Click	Preview	Help Screen	231
Help Screen	Message	Preview	Back	200
Back	Click	Preview	Help Screen	215
Help Screen	Message	Preview	Back	204
Back	Click	Preview	Help Screen	212
Help Screen	Message	Preview	Back	195
Back	Click	Preview	Help Screen	214
Help Screen	Message	Preview	Help Screen	200
Help Screen	Message	Preview	Help Screen	199
Help Screen	Message	Preview	Help Screen	197
Help Screen	Message	Preview	Help Screen	190
Help Screen	Message	Preview	Help Screen	195
Help Screen	Message	Preview	Help Screen	200
Help Screen	Message	Preview	Help Screen	199
Help Screen	Message	Preview	Close	193
Close	Click	POC	Screen Title	287



**VOLUME AND PERFORMANCE TEST REPORT - PHASE 2**  
**COMMERCIAL IN CONFIDENCE**



**No Help Available**

The following results show the timings for Help there is no help available.

Object	Action	To Window	Object	Average
Home	Click	POC	Screen Title	203
Local Schemes	Click	POC	Council Tax Schemes	411
Council Tax Schemes	Click	POC	Council Tax Voucher_lbl	346
Help	Click	Preview	Help Screen	618
Help Screen	Message	Preview	Close	191
Close	Click	POC	Screen Title	256

## 4.2 Test Group R01 – Branch Router

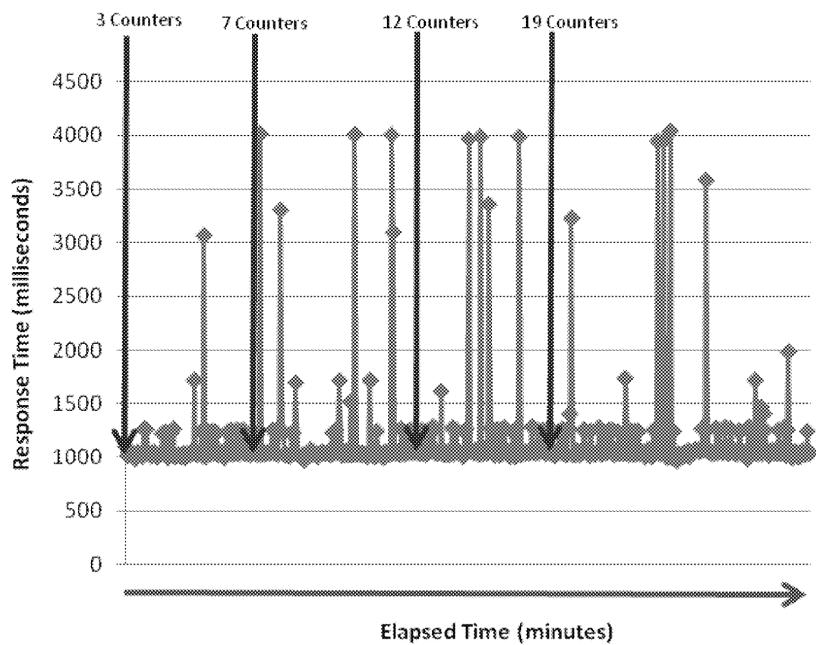
The branch router tests were designed to gradually increase the number of counters transacting at a branch and see if there were any affect on transaction times. Starting with 1 and increasing the by 5 counters until 20 counters were trading at a branch. The transaction used in the test was selling a 1<sup>st</sup> class stamp. Transactions were conducted using Winrunner on 20 counters. Due to issues with Winrunner the test actually performed 3 counters, increased to 7, 12 and finally 19. Results are shown based on one of the counters trading throughout the test. An additional test was conducted to ensure that 24 counters could trade simultaneously which was successful.



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



Settlement Response Times with increasing number of counters



Although the graph above does show some variance in response times these are minimal compared to the amount of items being transacted. The table below shows that with the increase in counters trading the settlement response time reaches no higher that 1.25 seconds in the 95 percentile.

95 Percentile		
3-7 Counters	7-12 Counters	12-19 Counters
1150 ms	1251 ms	1242 ms



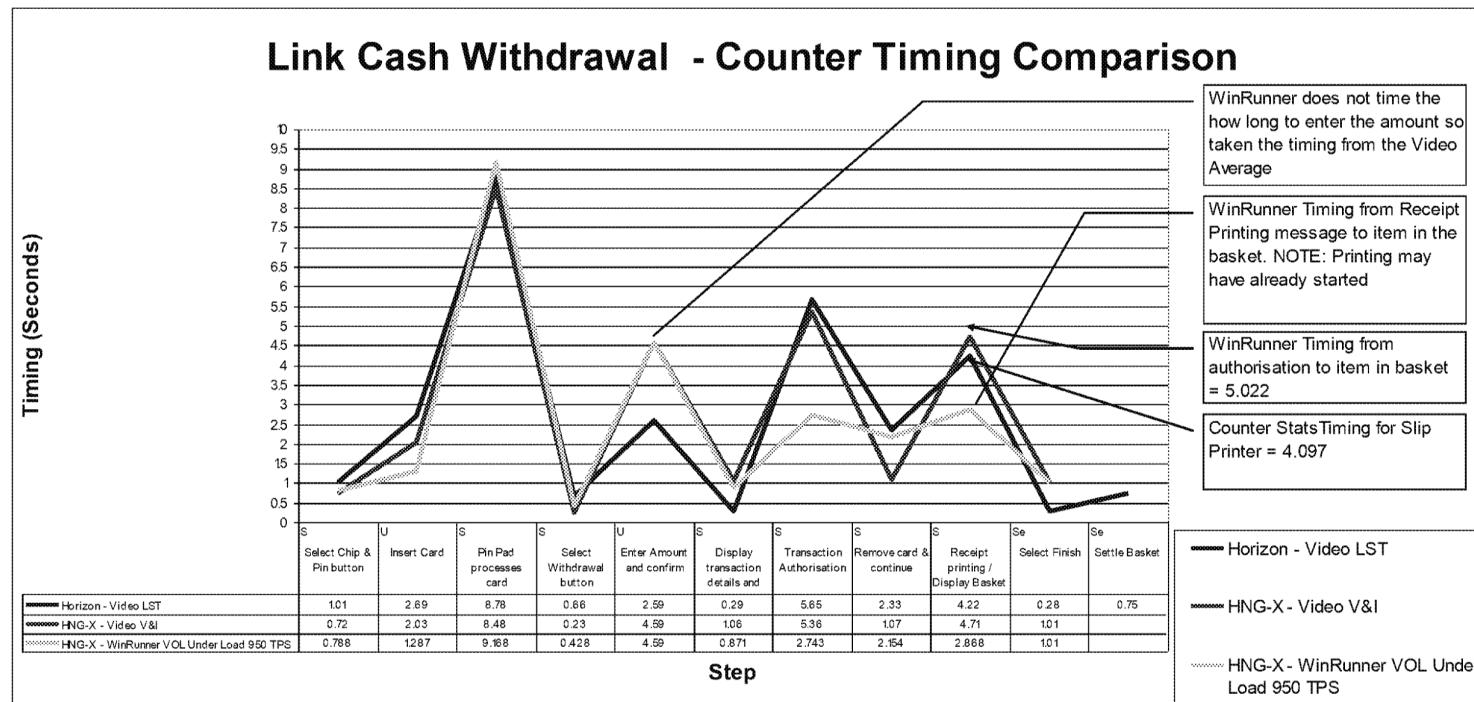
VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE





## 5 Recommendations

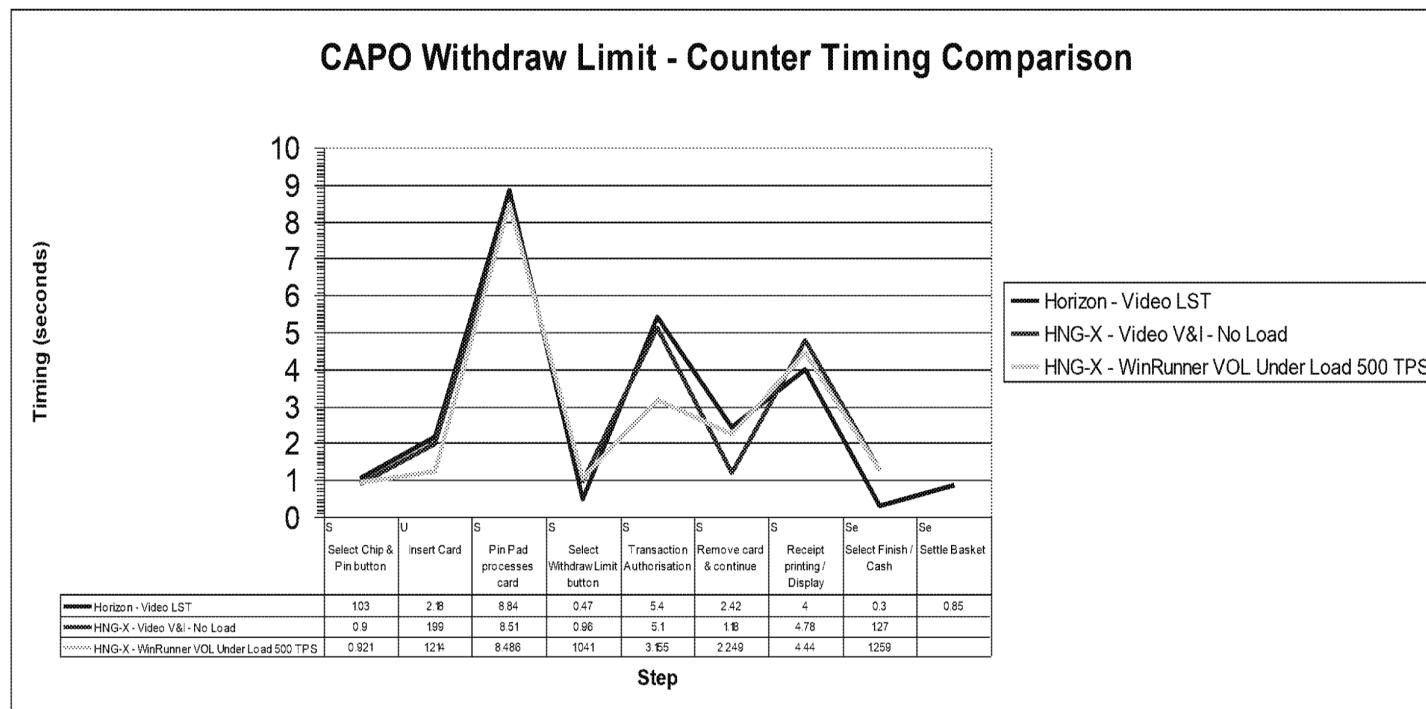
The following graphs show the comparison of the video timings taken from SVM/SDM/REP/0008 against the results from the counter performance testing on the VOL rig whilst the data centre is under load as presented above.



For a Link Cash withdrawal the results from the counter performance test under load show comparable results to Horizon and the HNGX videoing.



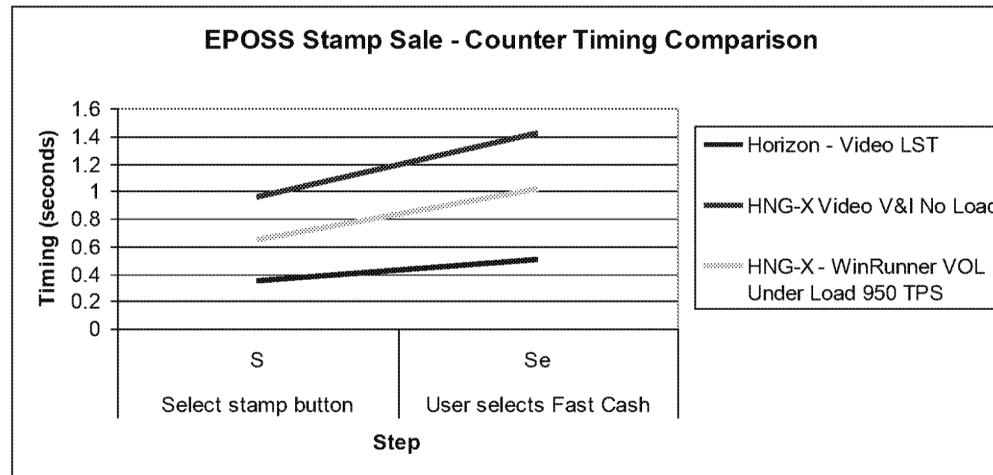
VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



For CAPO Withdrawal Limit the results from the counter performance test under load show comparable results to Horizon and the HNGX videoing.



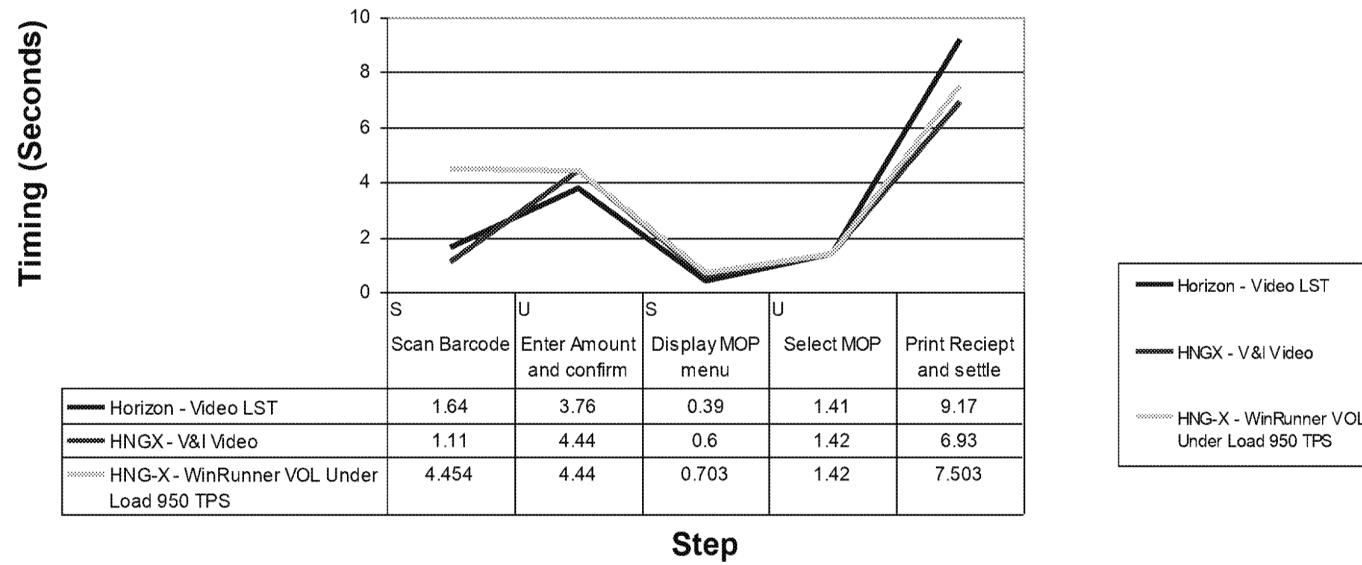
VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



For an EPOSS stamp sale the results from the counter performance test under load show slightly higher results than Horizon and lower results than HNGX videoing (due to system improvements since videoing). Even though HNGX timings are slightly higher than Horizon the maximum difference is approximately 500 milliseconds for settlement under a peaks day load.

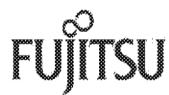


### Barcoded Bill Payment - Counter Timing Comparison



For a Barcoded Bill Payment the results from the counter performance test under load showed comparable results to Horizon.

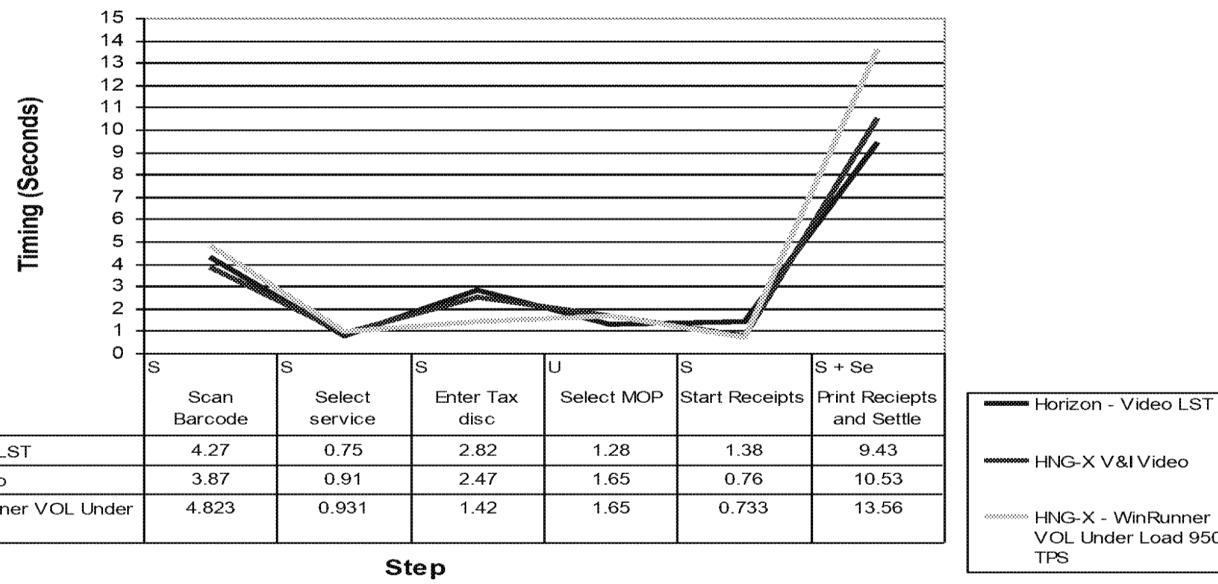
Note: The more realistic timing for scanning a barcode for HNGX is from the video.



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



### DVLA Tax Disc - Counter Timing Comparison



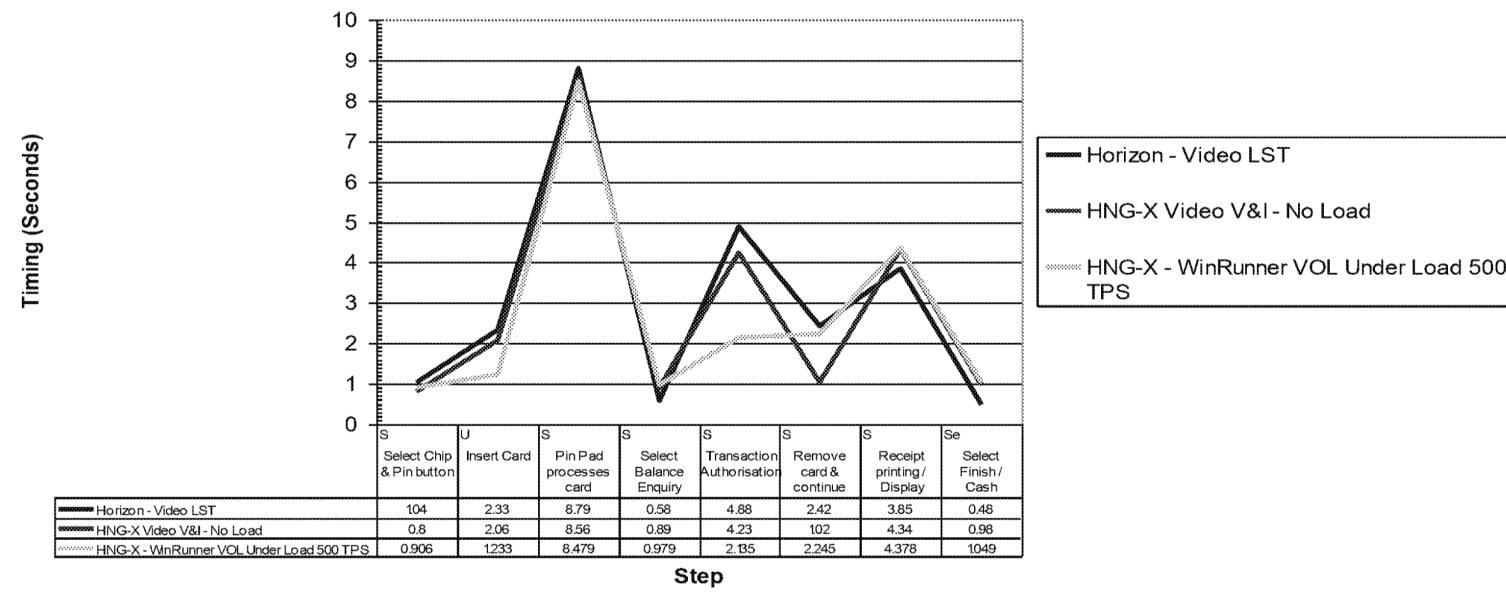
For Taxing a Vehicle for 12 months the results from the counter performance test under load showed comparable results to Horizon apart from printing and settlement. The counter performance tests cannot separate the printing and settlement as it is related to screen flow. However the HNGX counter system logs show that the settlement took 1.319 seconds and both printing elements took 5.715 and 6.027. The printing elements take up most of the time, however as seen in other transactions the printing time can vary.



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



### CAPO Balance Enquiry - Counter Timing Comparison



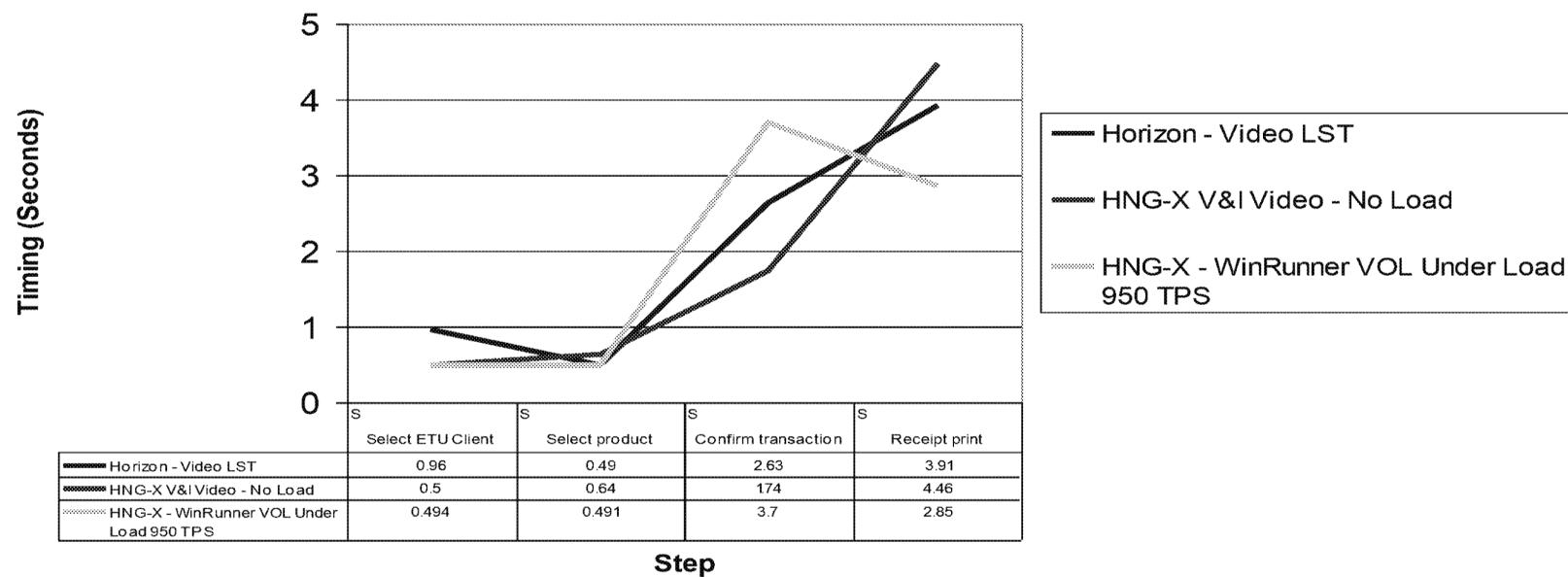
For CAPO Balance Enquiry the results from the counter performance test under load show overall comparable results to Horizon and the HNGX videoing.



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



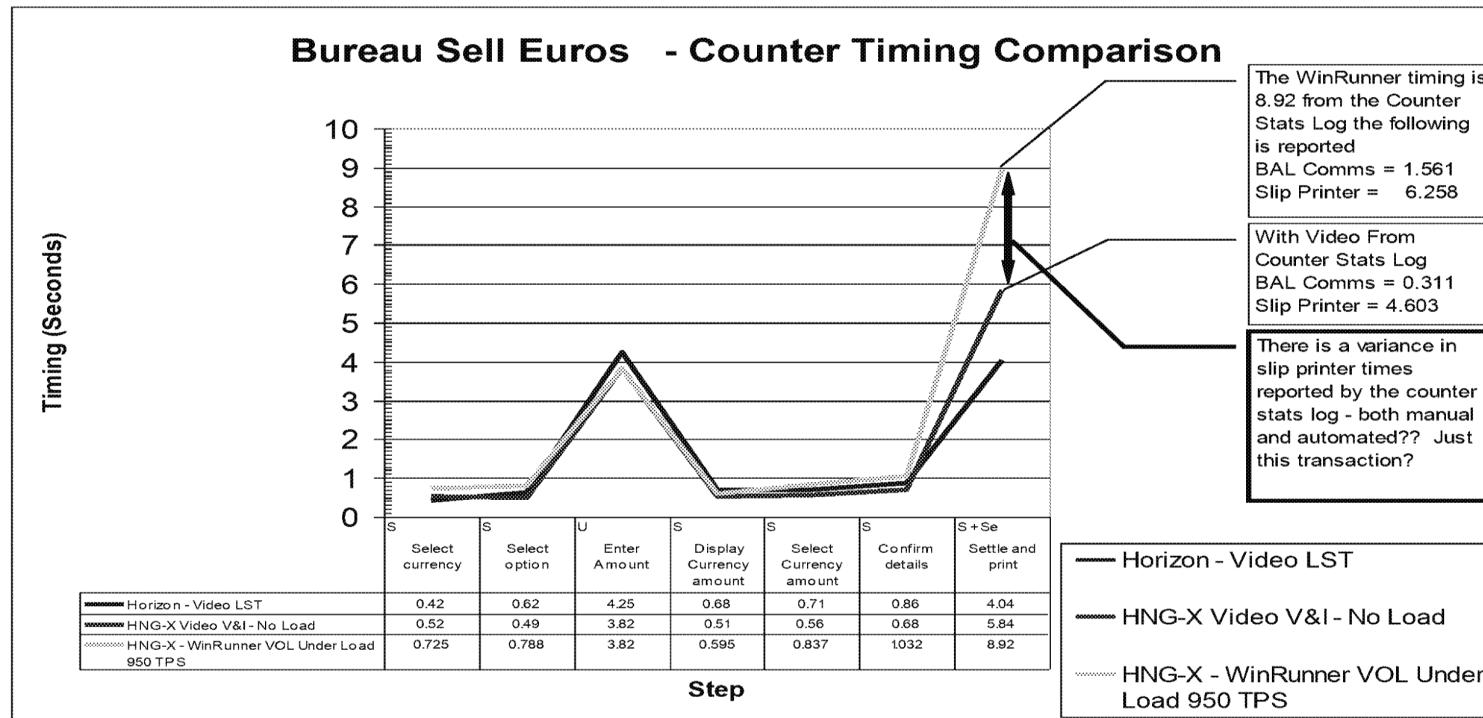
### ETU Voucher - Counter Timing Comparison



For CAPO Balance Enquiry the results from the counter performance test under load show overall comparable results to Horizon and the HNGX videoing



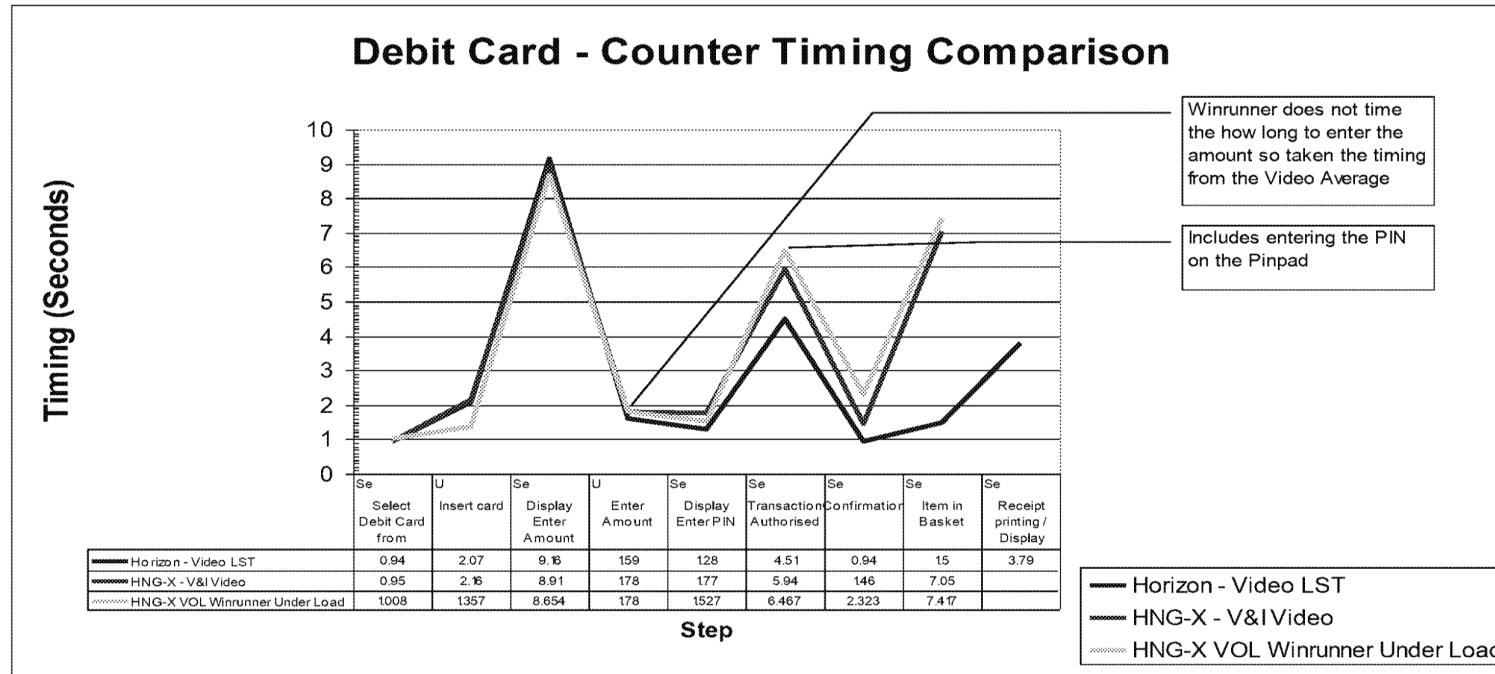
VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



For Selling Euros the results from the counter performance test under load showed comparable results to Horizon. The counter performance tests cannot separate the printing and settlement as it is related to screen flow. The HNGX counter system logs show that the settlement (Branch Access Layer Communication) took 0.3 seconds and both printing elements took 6.258 and 4.603. The printing elements take up the most difference between Horizon and HNGX , however when the printing time was investigated it was shown that the printing timing can vary.



VOLUME AND PERFORMANCE TEST REPORT - PHASE 2  
COMMERCIAL IN CONFIDENCE



For Settling by Debit Card the results from the counter performance test under load show overall comparable results to Horizon and the HNGX videoing. There is a noticeable difference in the printing time in HNGX, however the Debit card transaction was performed on an ETU transaction where I believe the receipt printing flow may have changed from Horizon. On settlement in HNGX the ETU receipt is also printed.



## 6 Conclusions

From the Counter Performance Test results, it can be concluded that there are no significant increase in timings at the counter for transactions when there is a peak day's load on the data centre. It can also be concluded there is no adverse affect to transactions from multiple counters trading at the same time via a branch router. It can also be noted that the equivalent timings from HNGX are comparable to that of Horizon.