**Performance Test Summary Report**

Program/Project Name: Optus Digital Agency

Program/Project Number: TB982

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# Document Purpose

This document contains details of:

* Executive summary of achieved results;
* The outcomes from performance testing;
* Summary of outcomes;
* Recommendations.

## Document Audience

Any interested party wishing to understand what Performance Testing was conducted on the Optus Digital Agency project, and the results.

# Introduction

## Project Overview

To test the Performance of Optus Digital Application for critical scenarios and identify Performance bottleneck if any.

The Optus Digital Agency (ODA) project is an initiative to provide a range of digital advertising solutions to Optus SMB customers. The goal and vision is to create a one-stop shop for SMB customers to purchase online advertising (presence and relevance) tools and services for the SMB to generate cost effective sales leads via the web. Specifically, postpaid SOHO and micro-SMB segments are the target. The 3rd parties NCS, Melbourne IT, TSA and Google will be engaged to support this initiative.

The product will initially be sold via the SMB Telesales and Call Centre channels.

Using HP Performance Centre, tests will be conducted to verify that the   
non-functional requirements have been met in the performance-testing environment.

## Testing Objectives

The testing objectives are:

1. To baseline the system performance of SODA application by simulating the identified Order submission and Search quote and order critical business scenarios under define workload condition by executing following test.
   1. Average Test
   2. Peak Test
   3. Soak Test
   4. Peak+20% Test
   5. Stress Test
2. Also, verify the input/output timings to assess whether Non Functional requirement are met as defined in the below SLR tables for Response Time, User Concurrency and Transaction Volumes

Response Time:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Average Load Test** | | **Peak Load Test** | |
| **Reference** | **Business Scenarios** | **Average Response Time (sec)** | **95% Response Time (sec)** | **Average Response Time (sec)** | **95% Response Time (sec)** |
| **Optus Domain** | | | | | |
| ODA\_03 | Order Submission | 5 | 7 | 7 | 10 |
| ODA\_04 | Search Order | 5 | 7 | 7 | 10 |

### User Concurrency:

### The table below shows the user concurrency required for each business scenarios included for performance testing of Optus Digital Agency.

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference** | **Business Scenarios** | **Average**  **Users** | **Peak**  **Users** |
| **Optus Domain** | | | |
| ODA\_03 | Order Submission | 3 | 4 |
| ODA\_04 | Search Order | 10 | 12 |

### Transaction Volumes

### The table below shows the transaction volumes required for each business scenarios included for performance testing of Optus Digital Agency

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference** | **Business Scenarios** | **Average**  **Tr/Hr** | **Peak**  **Tr/Hr** |
| **Optus Domain** | | | |
| ODA\_03 | Order Capture Submission | 7 | 18 |
| ODA\_04 | Search Order | 165 | 200 |

# Scope and Execution Status

## Scope and Execution status

|  |  |
| --- | --- |
| Planned PT Execution | Execution Status |
| Cycle 1 Average+Peak+Average2 load test(Soak test) | Completed |
| Cycle 2 Peak + 20% load test | Completed |
| Cycle 3 Stress Testing | Completed |

# Test Summary, Observations and Recommendations

For detail Test Report refer attached PT Test Detailed Result Report in Reference document under Appendix A

## Test Summary

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Performance Metric** | **Average Load Test** | **Peak Load Test** | **Soak Load Test** | **Stress Test** | **Failed Reason** | **Observations & Recommendations** |
| Transaction Response time | FAIL | FAIL | N/A | N/A | Account detail transaction exceeds define SLR | Refer to section 4.2 |
| Server Statistics (CPU, Memory, Disk I/O | PASS | PASS | PASS | PASS | N/A | Refer PT Test Detailed Result Report attached in Appendix A |
| List any further monitoring required for the project | Account Details transaction needed to be monitored further as it is not meeting the business SLR. | | | | | |

## Project or Change Request Name

### Observation

* Performance Testing was fail due to Account detail transaction exceeded defined SLR
* We found above transaction is taking less time in production because of difference in WAM configuration of

PPT on which performance testing was carried out than production environment. Find reference mail

Attached in Appendix for configuration difference of WAM

* Search Order was performed on 1 year projected data volume in database, which found to be within SLR
* From Stress test we observed 700 concurrent VUser as break point of the application.

### Recommendations

We recommend to investigate further on finding root cause for Account detail transaction high response time before rolling out to production.

# Deviations from the Detailed Test Plan

A number of deviations from the DTP were necessary during execution.

## Deviations

|  |  |
| --- | --- |
| **Reference** | **Description** |
| DEV001 | Quote module was de scoped from Performance Testing |

# Performance Defects

## Open Defects

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Defect ID** | **Summary** | **Severity** | **Defect Type** | **Impact** | **Action Plan** | **Responsible Person** | **Planned Completion Date** |
| [325](testdirector:10.10.35.25:8080/qcbin,ACTIVE_PROJECTS,TB982_Optus_Digital_Agency,pes-environmentsteam;2:325) | ODA PT: High Response Time observed during Average and Peak Load Test | 2 | Performance | Medium | TBD | Digvijay Chitkara | TBD |
|  |  |  |  |  |  |  |  |

## Closed Defects

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Defect ID** | **Summary** | **Severity** | **Root Cause** | **Resolution** |
|  |  |  |  |  |
|  |  |  |  |  |

For complete Closed defect details please refer to the defect report attached in appendix A

# Definitions and Acronyms

The following Performance Testing and project specific terms, acronyms and abbreviations are used in this document:

|  |  |
| --- | --- |
| **Term** | **Definition** |
| API | Application Programming Interface |
| Controller | Application used to coordinate the execution of a Load Test Scenario across one or many Load Generators. Determines the number of concurrent Virtual Users and their rate of execution. Also collects and collates performance data for analysis. |
| HTML | Hyper Text Mark-up Language |
| HTTP | Hyper Text Transfer Protocol |
| Load Generator (or Injector) | Server on which Virtual Users are executed. Each server may run up to 500 Virtual Users concurrently (depending on the type of system being tested and the specifications of the server). |
| LoadRunner Script | Program written in C that simulates the behaviour of a user on the system under test. This is derived from the Test Steps. |
| MoFW Server | Monitoring Over Firewalls Server, required for monitoring components across a firewall. A server located on the same network segment as the application components being monitored. Collects performance metrics from system components (e.g. CPU utilisation, memory / virtual memory utilisation, disk i/o) and passes the data back to the TestCentre Controller server via secure TCP port 443. |
| Ramp Up | The time at the start of execution during which running Virtual Users are added to a scenario. This allows load to be applied gradually and can be adjusted as required (e.g. Add 1 Virtual User every 3 seconds – for a 200 user scenario, this results in a 10 minute Ramp Up) |
| Script | A script contains multiple transactions (steps) to execute a particular test case. |
| Soak Test | A type of load test that runs for an extended period of time, preferably 6 or more hours. This type of test is aimed at identifying defects with the system’s ability to maintain a steady state. This will include issues with memory utilisation and management, workflow queuing, database contention, log file generation and other time-dependent issues. |
| TCP/IP | Transmission Control Protocol/Internet Protocol |
| Test Case | Business activity that is typically carried out by users on the system under test. These will generally be business critical or frequently executed activities that generate a load on the system. |
| Test Steps | The sequence of individual transactions that make up the Test Case. These contain detail to the level of individual mouse clicks and data entry. |
| Transaction | A component (usually a Test Step) of the test case that is measured in order to produce performance metrics. This is usually measured as a Transaction Time in seconds. |
| Transaction Time | The time taken for a Transaction to complete. Usually the time from submission of a request by the client to the response received from the application. |
| Virtual User (or VUser) | An individual process running on a Load Generator server that emulates the activity of a ‘real’ user on the system under test. Behaviour is determined by the LoadRunner Script. |

# Appendix A. Document Control and Approval

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## Reference Documents

The following documents have been referenced in the preparation of this TSR.

| **Reference Document** | **Version** | **Date** | **File Location** |
| --- | --- | --- | --- |
| PT Detailed Test Plan | 1.2 | 09/05/2012 | <http://odm/livelink/livelink.exe?func=ll&objaction=overview&objid=30757317> |
| PT Test Detailed Result Report | 1.0 | 09/07/2012 | <http://odmprdlb.optus.com.au/livelink/livelink.exe?func=ll&objaction=overview&objid=31067641> |
| Mail for Production and PPT response time differences due to difference in WAM configuration |  |  |  |

## Related Documents

The following documents should be read in conjunction with this TSR.

| **Related Document** | **Version** | **Date** | **File Location** |
| --- | --- | --- | --- |
| PT Test Detailed Result Report | 1.2 | 09/05/2012 | <http://odm/livelink/livelink.exe?func=ll&objaction=overview&objid=30757317> |
| PT Test Detailed Result Report | 1.0 | 09/07/2012 | <http://odmprdlb.optus.com.au/livelink/livelink.exe?func=ll&objaction=overview&objid=31067641> |
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# Appendix B. Application Code Fixes and Environment Configuration Changes

## B.1. Application Code Fixes

Following are extracts from the release notes that accompanied code drops performed during the course of testing. These enhancements were specifically to address performance defects.

|  |  |
| --- | --- |
| **Item** | **Description** |
| CF 001 |  |

## B.2. Environment Configuration Changes

Following are configuration changes made to the application servers and databases in order to enhance performance during testing.

|  |  |
| --- | --- |
| **Item** | **Description** |
| EC 001 |  |
| EC 002 |  |