



AppBreaker

Sample Performance Test Report
generated by AppBreaker at the
end of each engagement

Performance Test Report

Company XYZ

Version 1.0
4/4/2007

Version History

Date	Version	Author	Change Description
5/1/07	1.0	Sample	Initial Sample Document Creation

SAMPLE

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This page provides the purpose, objective and project overview of the engagement including goals and business processes to test.

1. Executive Summary

1.1 Purpose

The purpose of this document is to provide a sam

1.2 Objective

The objectives for this round of performance testing were to understand the performance and scaling properties of Company XYZ's Application. The web based application allows users to access application.

The performance testing provided answers to several key questions:

1. Can the company's application sustain 9,000 applications per hour?
2. What is the projected end-user response time associated with application under load?

1.3 Project Overview

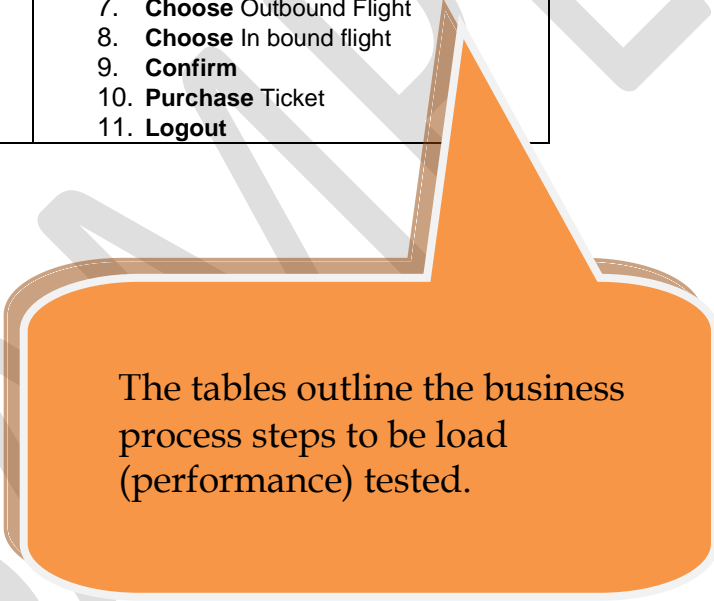
The scope of the performance testing consisted of the following business processes (abbreviated BP) for XYZ Application:

1. Open new account
2. Registering user and booking flight

The business processes that were load tested to drive production like load against the XYZ Application (business process steps are outlined below)

Business Process	Steps
Open New Account	<ol style="list-style-type: none">1. Launch the application2. Login3. Search database4. Add User Info5. Verify Credit Card6. Approve Account

Business Process	Steps
Booking a Flight	<ol style="list-style-type: none">1. Launch the application2. Login3. Select departure date4. Select arrival date5. Select departure city6. Select arrival city7. Choose Outbound Flight8. Choose In bound flight9. Confirm10. Purchase Ticket11. Logout



The tables outline the business process steps to be load (performance) tested.

Provides a better understanding of the throughput numbers to achieve during testing

1.4 Run Objectives

The projected peak volume for the XYZ Application was used as a baseline for the last season (against both datacenters). Using this as a baseline, the objective was to complete 8,000 account openings per hour while experiencing no issues with the XYZ application. Since only one datacenter will be utilized for this round of testing, 4,000 applications per hour will be required to meet the testing objective.

Test Run	Objective
Open Account	Sustain 4,000 account openings
Book a Flight	Sustain 1000 Flight Bookings

1.5 Testing Environment

1.5.1 Performance Servers

The performance servers are utilized to drive physical load from the load generators to the XYZ application testing environment. The controller is the control center behind the testing; it controls items such as user count, monitoring, scripts, results and other administrative tasks. The controller deploys scripts at run-time to the load generators, and then in turn the actual load is driven from the load generators to the XYZ application under test. The load generators, with multiple distinct IP addresses, were utilized to ensure realistic load balanced traffic against the application under test.

1.5.2 Testing Environment

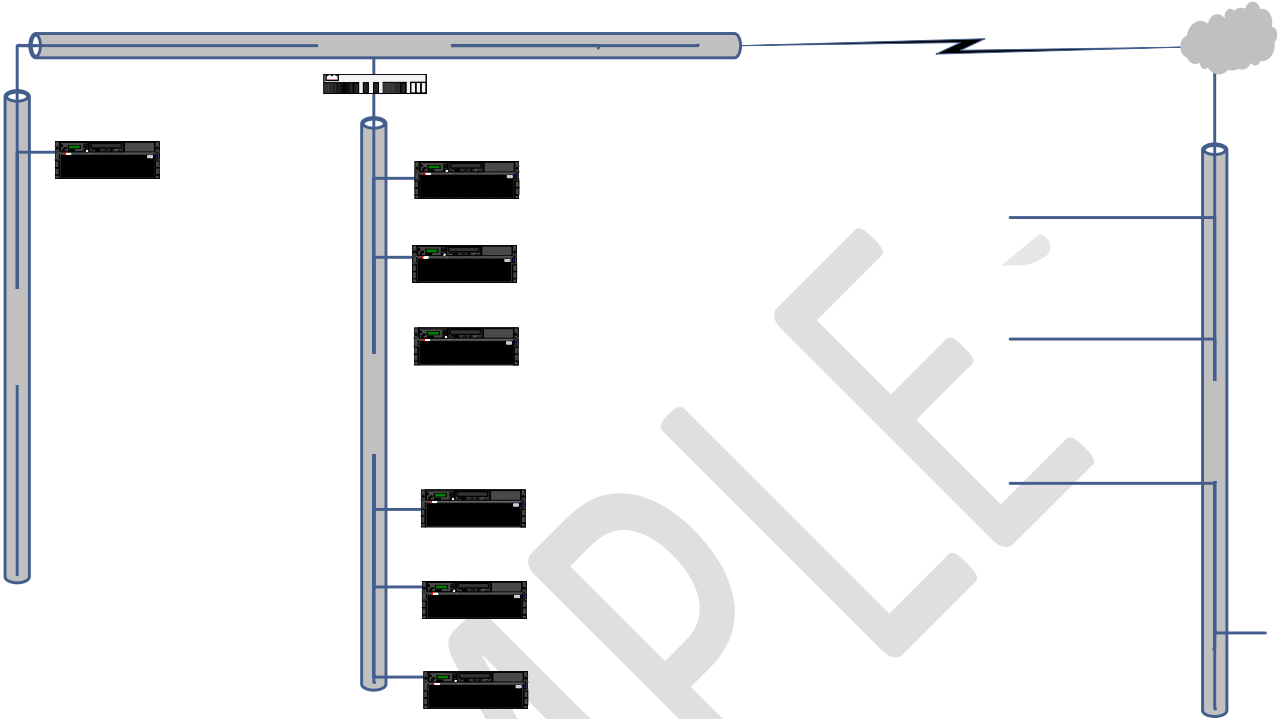
The new application and database servers were utilized to understand the scalability, growth, and breaking point of the application. The application servers and database servers will be migrated into production in mid-January.

Tier	Specifications
Six Web / App Servers	IIS 2.8 GHz 4GB
Database	Oracle 9i 4 x 3.0 GHz 8GB (2 x Quad Core)

1.5.3

Environment details about the load testing infrastructure and the application under test infrastructure.

Testing Network Diagram



2. Performance Testing

2.1 Results Summary

This section provides the results from two test runs after multiple rounds of system configuration and application tuning. The table below outlines different bottlenecks that were rectified on the system and/or application, thus allowing for greater throughput and lower response time.

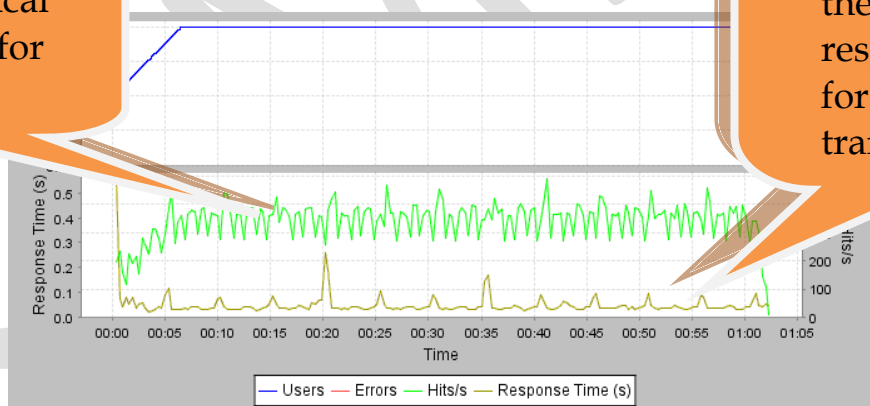
2.2 Account Opening Transactional and Chart Summary

The Account Opening test was able to sustain a load of 8,000 application processes per hour. During this peak load test no application or system issues were experienced while maintaining the below system, network, and response time metrics.

Business Process Throughput	
Number of applications / hr	8,777

The graph below is for the Customer in Database test run and provides

Shows a graphical representation for web hits/sec



Shows a graphical representation of the average response time/sec for all the transactions

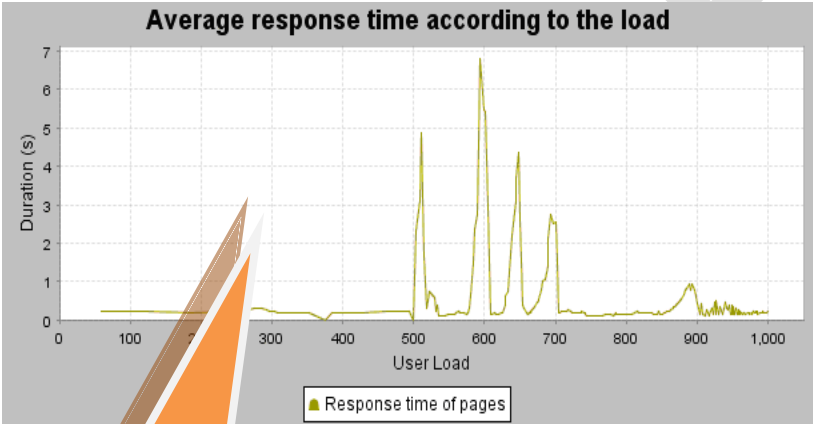
User Experience	*Avg. - 90% Response Time (s)
Initial Splash Screen	0.107
Login	0.111
Search User	0.107
Enter Data	0.149
Verify Credit Card	0.331
Validate accounts	44

Business Process Response Times

Account Open	0.13
Approve Account	4.2

* The *average 90%* is calculated for response times by removing the lowest and highest 5% of values, to iron out any outliers. The resulting figure is close to the response time obtained by the majority of the transactions.

The following graph displays the average response time, in seconds, of all pages according to the number of simultaneous virtual users.



Shows how average response times change as user load increases

Summary information around the 2nd business process tested during this round of performance testing

2.3 Flight Bookings Transactional and Chart Summary

The Customer Not in Database test was able to sustain a load of 4,987 application processes per hour. During this peak load test no application or system issues were experienced while maintaining the below system, network, and response time metrics.

Business Process Throughput	
Number of bookings / hr	4,923

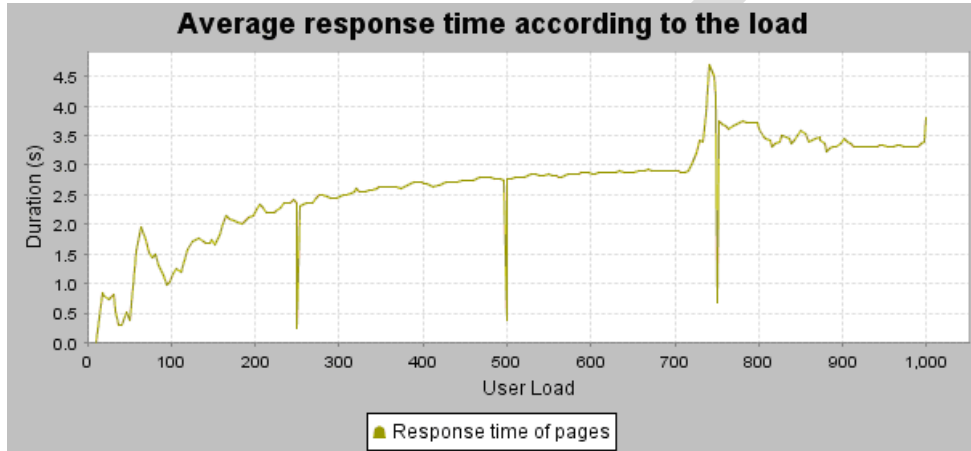
The graph below is for the Customer Not in Database test run and provides hits/sec and response time information.



User Experience	*Avg. - 90% Response Time (s)
Launch the application	0.073
Login	3.2
Select departure date	0.18
Select arrival date	3.23
Select departure city	3.37
Select arrival city	3.22
Choose Outbound Flight	3.25
Choose In bound flight	3.21
Confirm	3.38
Purchase Ticket	3.36
Logout	3.3

* The average 90% is calculated for response times by removing the lowest and highest 5% of values, to iron out any outliers. The resulting figure is close to the response time obtained by the majority of the transactions.

The following graph displays the average response time, in seconds, of all pages according to the number of simultaneous virtual users.



Provides the average top 5 highest page response times

3. Appendix

The appendix provides detailed information on the top five average response times for both test runs. It also provides average, max, and avg-90th response time transactions, response time graphs, CPU utilization graphs, and throughput graphs.

3.1 Account Opening Transactional Details

Top 5 Average Response Time

Page	Avg. Response Time (s)
Initial Splash Screen	4.17
Login	1.51
Search User	0.683
Enter Data	0.541
Verify Credit Card	0.486

Top 5 Maximum Response Time

Page	Max Response Time (s)
Logout	11.2
Login	10.06
Search User	9.8
Enter Data	9.06
Verify Credit Card	8.34

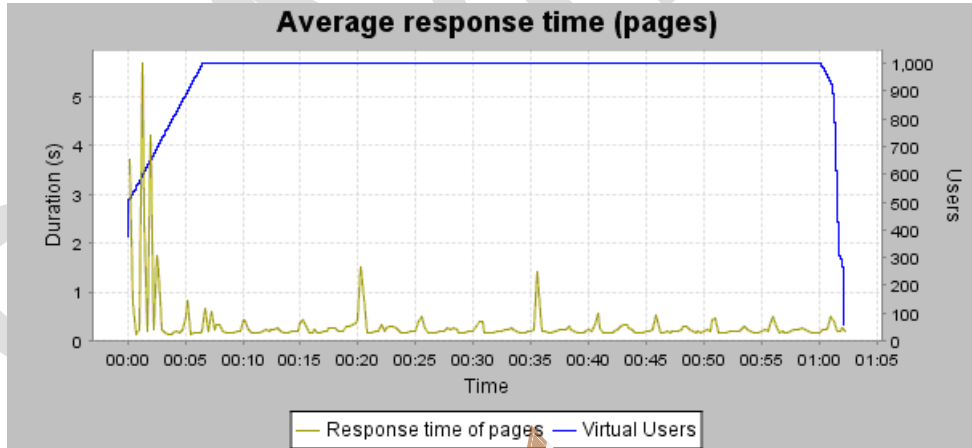
Provides the maximum top 5 highest page response times

Avg, Max and Avg. 90% responses time for all business process steps

Detailed Response Time for All transactions

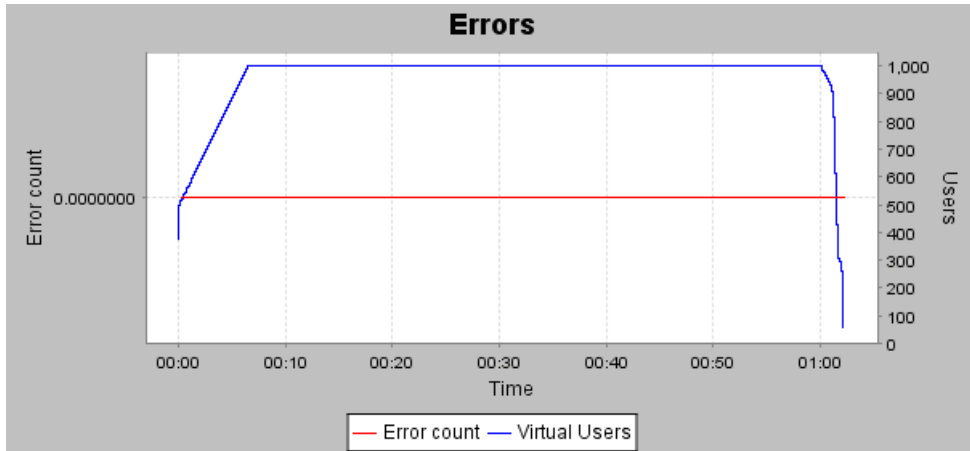
User Experience	Avg. (s)	Max (s)	*Avg. - 90% (s)
Initial Splash Screen	0.261	7.47	0.107
Login	0.139	3.64	0.111
Search User	0.106	0.516	0.107
Enter Data	0.151	1.25	0.149
Verify Credit Card	0.683	9.06	0.331
Validate accounts	0.396	10.06	0.244
Account Open	0.131	2.59	0.13
Approve Account	4.17	8.34	4.2
Initial Splash Screen	0.486	9.8	0.264
Login	0.135	3.62	0.132
Search User	0.541	7.2	0.406
Enter Data	0.217	1.19	0.214
Verify Credit Card	0.249	3.62	0.248
Validate accounts	0.098	1.64	0.097

The following graph displays the average response time, in seconds, of all the pages during the test.

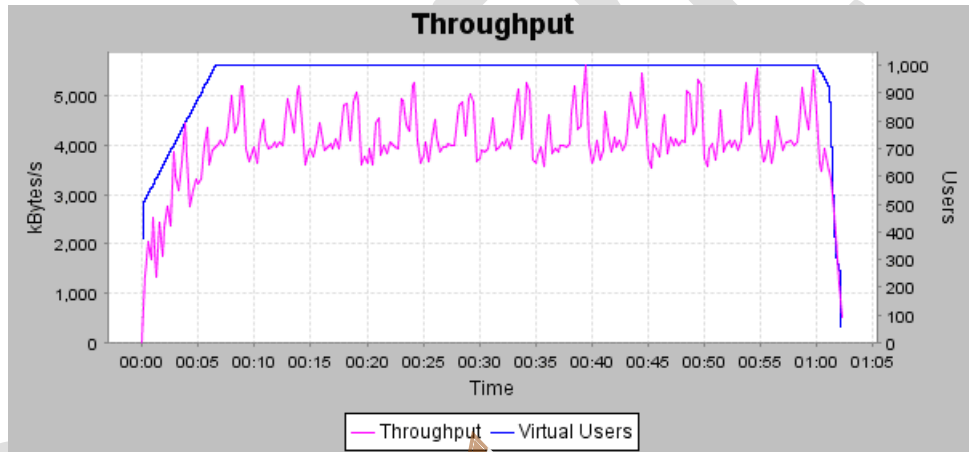


The following graph provides a graphical view that no errors occurred during this test.

This graph provides a side by side comparison of average page responses times and number of virtual users tested



The following graph displays the number of Kbytes of data returned by the server during the test.



This graph provides a side by side comparison of throughput and number of virtual users tested.

Throughput is number of kBytes of data returned by the server

Detailed Response Time for All http requests (all times in seconds)

Http Request	Min	Avg	Max	Hits	Err	Med	Avg 90%	Std Dev
All*	<0,01	0.046	11.2	1268982	0	0.036	0.04	0.047
/xyx/images/header.jpg	<0,01	0.049	0.422	11826	0	0.048	0.049	0.021
/xyx/start.php	<0,01	0.014	0.266	11820	0	0.014	0.013	<0,01
/xyx/XYZhf.js	<0,01	0.05	0.391	11824	0	0.051	0.05	0.02
/xyx/XYZhf.css	<0,01	<0,01	0.219	11824	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.219	11817	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.05	0.453	11815	0	0.05	0.05	0.021
/xyx/customerCtrl.php	0.031	0.07	1.25	11820	0	0.065	0.066	0.027
/xyx/XYZhf.js	<0,01	0.046	0.36	11818	0	0.045	0.045	0.019
/xyx/XYZhf.css	<0,01	<0,01	0.219	11819	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.219	11821	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.043	0.42	11822	0	0.043	0.043	0.018
/xyx/customerCtrl.php	0.031	0.06	1.25	11820	0	0.06	0.063	0.027
/xyx/XYZhf.js	<0,01	0.033	0.36	11818	0	0.033	0.033	0.015
/xyx/XYZhf.css	<0,01	<0,01	0.219	11819	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.219	11821	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.043	0.42	11822	0	0.043	0.043	0.017
/xyx/customerCtrl.php	0.031	0.06	1.25	11820	0	0.06	0.063	0.035
/xyx/XYZhf.js	<0,01	0.034	0.36	11818	0	0.034	0.034	0.015
/xyx/XYZhf.css	<0,01	<0,01	0.219	11819	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.219	11821	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.037	0.36	11817	0	0.037	0.038	0.017
/xyx/appCtrl.php	0.125	0.175	1.17	11794	0	0.171	0.171	0.028
/xyx/XYZhf.css	<0,01	<0,01	0.203	11794	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	<0,01	0.203	11788	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.203	11794	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.037	0.36	11797	0	0.037	0.037	0.015
/xyx/XYZhf.css	<0,01	<0,01	0.203	11797	0	<0,01	<0,01	<0,01
/xyx/appCtrl.php	0.046	0.157	3.42	11789	0	0.157	0.156	0.032
/xyx/XYZhf.css	<0,01	<0,01	0.032	11789	0	<0,01	<0,01	<0,01
/xyx/XYZhf.css	<0,01	<0,01	0.171	11773	0	<0,01	<0,01	<0,01
/xyx/appCtrl.php	0.046	0.07	1.84	11751	0	0.068	0.069	0.017
/xyx/XYZhf.css	<0,01	<0,01	0.031	11751	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	<0,01	0.188	11747	0	<0,01	<0,01	<0,01

This table provides details around every individual page during testing allowing to understand response time information down to the http request level.

Company XYZ
Performance Test Report

Http Request	Min	Avg	Max	Hits	Err	Med	Avg 90%	Std Dev
/xyx/images/header.jpg	<0,01	0.046	0.359	11754	0	0.045	0.046	0.019
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	11752	0	<0,01	<0,01	<0,01
/xyx/appCtrl.php	0.046	0.063	1.81	11733	0	0.061	0.061	0.018
/xyx/XYZhf.js	<0,01	0.043	0.391	11734	0	0.042	0.042	0.019
/xyx/XYZhf.css	<0,01	<0,01	0.204	11732	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.188	11734	0	<0,01	<0,01	<0,01
/xyx/XYZhf.css	<0,01	<0,01	0.016	11733	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.047	0.359	11732	0	0.048	0.047	0.019
/xyx/appCtrl.php	0.046	0.07	1.69	11705	0	0.068	0.069	0.02
/xyx/XYZhf.css	<0,01	<0,01	0.172	11705	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	<0,01	0.188	11692	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.219	11705	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.046	0.391	11718	0	0.048	0.045	0.019
/xyx/appCtrl.php	0.046	0.167	1.48	11687	0	0.165	0.167	0.025
/xyx/XYZhf.css	<0,01	<0,01	0.032	11688	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.069	0.453	11672	0	0.07	0.069	0.025
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.187	11694	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.053	0.422	11694	0	0.053	0.053	0.022
/xyx/appCheckoutCtrl.php	0.187	1.47	11.2	11632	0	1.11	1.28	1.13
/xyx/XYZhf.css	<0,01	<0,01	0.219	11632	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	<0,01	0.219	11630	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	11632	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.036	0.344	11634	0	0.037	0.036	0.015
/xyx/XYZhf.js	<0,01	0.063	0.359	11609	0	0.063	0.063	0.023
/xyx/XYZhf.css	<0,01	<0,01	0.188	11671	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	11733	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.046	0.359	11671	0	0.046	0.045	0.02
/xyx/appCtrl.php	0.031	0.067	1.61	11652	0	0.064	0.065	0.017
/xyx/XYZhf.js	<0,01	0.045	0.406	11652	0	0.045	0.044	0.019
/xyx/XYZhf.css	<0,01	<0,01	0.172	11649	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	11655	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.043	0.359	11652	0	0.041	0.043	0.018
/xyx/customerCtrl.php	0.062	0.124	1.95	7632	0	0.101	0.107	0.089
/xyx/XYZhf.css	<0,01	<0,01	0.157	7631	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	<0,01	0.157	7634	0	<0,01	<0,01	<0,01

Company XYZ
Performance Test Report

Http Request	Min	Avg	Max	Hits	Err	Med	Avg 90%	Std Dev
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	7632	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.037	0.39	7631	0	0.035	0.037	0.016
/xyx/customerCtrl.php	0.062	0.114	1.58	4188	0	0.105	0.108	0.047
/xyx/XYZhf.js	<0,01	0.039	0.344	4185	0	0.039	0.039	0.017
/xyx/XYZhf.css	<0,01	<0,01	0.031	4191	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	4185	0	<0,01	<0,01	<0,01

* ALL is the synthesis of all HTTP requests.

SAMPLE

Detail information around the 2nd business process testing during this round of performance testing

3.2 Booking a Flight Transactional Details

Top 5 Average Response Time

Page	Avg. Response Time (s)
Launch the application	22.1
Login	3.58
Select departure date	3.52
Select arrival date	3.45
Select departure city	3.44

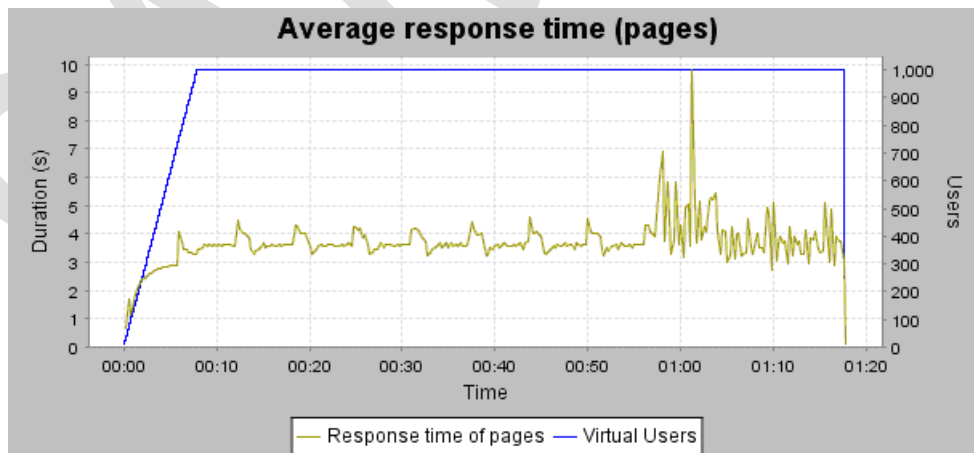
Top 5 Maximum Response Time

Page	Max Response Time (s)
Select arrival city	42.6
Choose Outbound Flight	21.4
Choose In bound flight	20.8
Confirm	18
Purchase Ticket	17.7

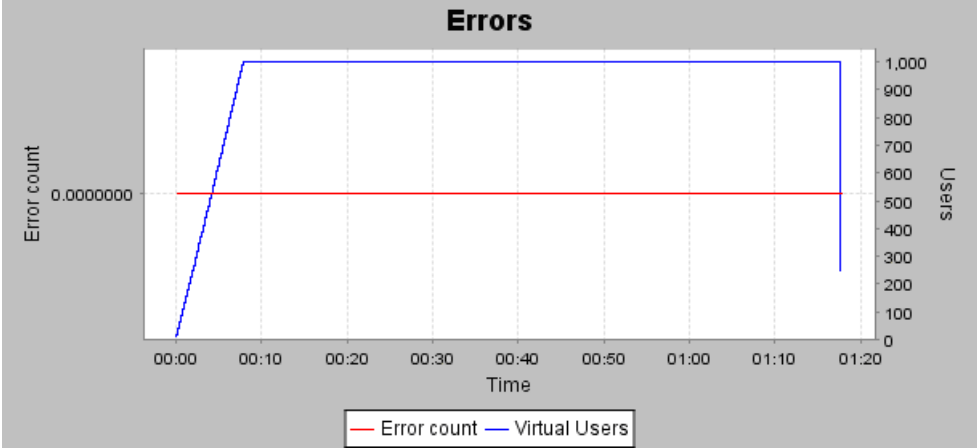
Detailed Response Time for All transactions

User Experience	Avg. (s)	Max (s)	*Avg. - 90% (s)
Launch the application	0.076	3.58	0.073
Login	3.25	9.72	3.2
Select departure date	0.182	3.05	0.18
Select arrival date	3.27	11.1	3.23
Select departure city	3.52	18	3.37
Select arrival city	3.27	11.6	3.22
Choose Outbound Flight	3.44	21.4	3.25
Choose In bound flight	3.26	13.9	3.21
Confirm	3.58	20.8	3.38
Purchase Ticket	3.45	17.7	3.36
Logout	3.44	16.8	3.3
Launch the application	3.29	13.1	3.2
Login	3.43	17.2	3.32
Select departure date	3.29	11.9	3.23
Select arrival date	3.39	17.2	3.27
Select departure city	3.38	11.8	3.3

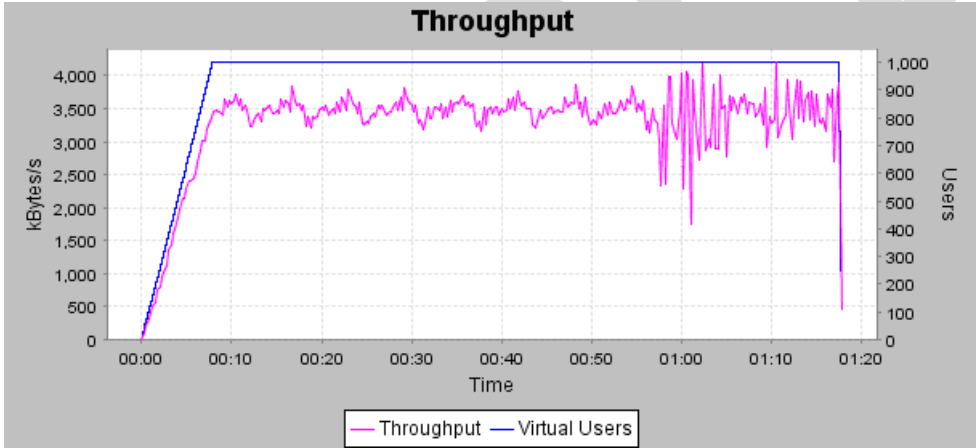
The following graph displays the average response time, in seconds, of all the pages during the test.



The following graph provides a graphical view that no errors occurred during this test.



The following graph displays the number of Kbytes of data returned by the server during the test.



Detailed Response Time for All http requests (all times in seconds)

Http Request	Min	Avg	Max	Hits	Err	Med	Avg 90%	Std Dev
All*	<0,01	0.732	42.4	1259186	0	0.702	0.716	0.163
/xyx/start.php	<0,01	0.015	3.3	12508	0	0.012	0.012	0.039
/xyx/XYZhf.css	<0,01	<0,01	0.156	12508	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	<0,01	0.329	12503	0	<0,01	<0,01	0.017
/xyx/images/header.jpg	<0,01	0.053	0.359	12510	0	0.052	0.052	0.023
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	12511	0	<0,01	<0,01	<0,01
/xyx/start.php	3.03	3.14	9.69	12128	0	3.09	3.1	0.311
/xyx/XYZhf.css	<0,01	<0,01	0.157	12127	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.067	0.344	12140	0	0.065	0.067	0.026
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.172	12131	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.054	0.344	12114	0	0.052	0.053	0.025
/xyx/start.php	<0,01	0.073	3.05	12067	0	0.07	0.07	0.057
/xyx/XYZhf.css	<0,01	<0,01	0.156	12068	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.072	0.36	12084	0	0.071	0.072	0.027
/xyx/XYZhf.css	<0,01	<0,01	0.032	11779	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.061	0.329	11806	0	0.061	0.061	0.024
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.156	11778	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.05	0.344	11753	0	0.048	0.049	0.023
/xyx/customerCtrl.php	3.03	3.16	13.9	11735	0	3.1	3.11	0.416
/xyx/XYZhf.css	<0,01	<0,01	0.141	11735	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.067	0.344	11742	0	0.065	0.066	0.025
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.156	11732	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.054	0.359	11731	0	0.053	0.053	0.025
/xyx/customerCtrl.php	3.06	3.46	20.8	11705	0	3.25	3.27	1.22
/xyx/XYZhf.css	<0,01	<0,01	0.156	11705	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.073	0.484	11721	0	0.074	0.073	0.028
/xyx/images/header.jpg	<0,01	0.058	0.39	11688	0	0.056	0.058	0.026
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.141	11706	0	<0,01	<0,01	<0,01
/xyx/appCtrl.php	3.14	3.34	17.7	11650	0	3.23	3.24	0.675
/xyx/XYZhf.js	<0,01	0.074	0.343	11626	0	0.075	0.074	0.028
/xyx/XYZhf.css	<0,01	<0,01	0.157	11649	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	11682	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.057	0.329	11641	0	0.056	0.056	0.026
/xyx/XYZhf.css	<0,01	<0,01	0.016	11652	0	<0,01	<0,01	<0,01

Company XYZ
Performance Test Report

Http Request	Min	Avg	Max	Hits	Err	Med	Avg 90%	Std Dev
/xyx/appCtrl.php	3.05	3.35	16.8	11608	0	3.19	3.2	0.88
/xyx/XYZhf.js	<0,01	0.05	0.329	11609	0	0.048	0.05	0.021
/xyx/XYZhf.css	<0,01	<0,01	0.016	11608	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.051	0.329	11607	0	0.05	0.05	0.025
/xyx/XYZhf.css	<0,01	<0,01	0.156	11361	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.219	11388	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.056	0.328	11355	0	0.055	0.056	0.026
/xyx/appCheckoutCtrl.php	21.2	22	42.4	11273	0	21.4	21.6	2.05
/xyx/XYZhf.js	<0,01	0.071	0.344	11248	0	0.07	0.071	0.026
/xyx/XYZhf.css	<0,01	<0,01	0.157	11274	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.156	11308	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.055	0.344	11262	0	0.052	0.054	0.024
/xyx/index.php	<0,01	0.016	2.92	11215	0	<0,01	0.01	0.076
/xyx/XYZhf.css	<0,01	<0,01	0.156	11215	0	<0,01	<0,01	<0,01
/xyx/XYZhf.js	<0,01	0.065	0.344	11229	0	0.064	0.065	0.024
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.016	11218	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.049	0.343	11198	0	0.048	0.049	0.022
/xyx/start.php	3.03	3.15	11.8	11173	0	3.09	3.1	0.344
/xyx/XYZhf.js	<0,01	0.064	0.344	11106	0	0.063	0.063	0.025
/xyx/XYZhf.css	<0,01	<0,01	0.157	11173	0	<0,01	<0,01	<0,01
/xyx/images/ogt_logo.gif	<0,01	<0,01	0.156	11254	0	<0,01	<0,01	<0,01
/xyx/images/header.jpg	<0,01	0.052	0.344	11159	0	0.05	0.051	0.023