PROJECT 1
Performance Test Plan
Version 1.00

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Change Control

Description	Version	Date	Author
Initial Draft	0.1	01-March-2011	Pragmatic Test Labs

Definitions and Acronyms

Following definitions and acronyms are intended to aid communication with various stakeholders of the performance testing project. They may not reflect the standard definitions from the industry.

Term	Description
Anticipate workload	Current workload * 1.5 (50% increase)
Current production environment	Production environment at OMS
Endurance testing	Execution of performance testing over an extended period of time with anticipated production volumes.
Latency	Time it takes to execute a single web request.
Load testing	Type of performance testing to evaluate application's behavior under anticipated production work load.
Metrics	Measurements obtained from executing the tests and presented on a commonly understood scale.
New production environment	New production environment at Telecommunication.
Performance tuning	Activities involved in identifying and fixing performance issues, and retesting.
QA	Quality Assurance
Smoke Testing	Initial run of performance tests verify if application can perform under normal load.
Spike testing	Type of performance testing where load is increased beyond anticipated production load for a shorter period of time.
Stress Testing	Type of performance test designed to evaluate application's behavior under load beyond anticipated production work load.
Throughput	Number of requests handled per unit of time (e.g. Requests per second)
Workload	Workload is stimulus applied to the system to simulate actual usage pattern in regards to concurrency, data volumes, transaction mix.

Test Project Overview

It's planned to move the current production environment to a new production environment. Various hardware and software versions, configurations are not comparable in current and new environment.

The project is focus on comparing the performance of application with respective to end user experience with current and new production environment.

Test Objectives

This section describes the overall performance testing objectives. The objectives are derived from the customer request to **compare user experience under anticipated production workload against new production environment**.

1. Compare responsiveness of current production system and proposed production system
2. Compare resource utilization of current product system and proposed production system.

Out-of-scope Business Processes

This section outlines the scenarios not covered by performance testing.

1. Identify performance bottlenecks and provide/suggest solutions
2. Support performance tuning effort
3. Endurance testing
4. Spike testing
5. Any other testing type not included in test objective section.

Dependencies and Baseline Assumptions

This section outlines the tasks that must be completed and the conditions that believed to be true to start performance testing effectively.

1. Components to be tested shall be completely functional
2. Components to be tested shall be installed and configured environment represents the intended production system
3. Production Data repositories are available for testing
4. Performance Testing tools are installed and fully licensed to execute the testing
5. Resource monitors are started during test execution
6. Resource usage in customer and server environment are identical as testing is started.
7. Testing systems are not accessed during test execution

Limitations and Risk

The identified limitations and Risks are documented here.

Risk	Type
Dependencies	HIGH
JMeter's ability to handle HTTPS request in production	Medium

Tools Selection

Free and open source tools are selected to minimize the project cost. Following table list the proposed tools to be used for performance testing.

Tool	Version	Description
JMeter	2.3.4	For implementing performance testing
JRE	1.6	Java run time environment to run JMeter
PerfMon		For monitoring and logging resource utilization
MS XL		For analyzing test results and publishing reports

Pre-Performance Testing Actions

This section outlines the activities to perform before executing formal performance testing.

1. Install JRE and JMeter on test server.
2. Implement performance monitors on servers
3. Communicate all stakeholders testing schedules and ensure testing is not affected by any intruding activities.

Performance Test Execution

This section explains the performance test execution process.

- Identify the performance test scenarios
- Identify the typical loads for each scenarios
- Implement tests using JMeter
- Synchronize time of test customer, current production servers and proposed production servers
- Smoke testing.
- Execute actual load scenarios with typical load conditions. Start resource monitors.
- Monitor and capture performance test results
- Analyze the test results and prepare test metrics

- Execute the tests again as required
- Publish the test results

Deliverables

This section outlines the planned deliverables of performance testing.

Sr. No	Name	Description	Responsibility
1	Performance Test Plan	This document	Pragmatic Testers
2	Performance Test Results	Raw data captured from performance testing. JMeter test results and resource usage logs.	Pragmatic Testers, OMS Admin, Telecommunication Admin
3	Test metrics	Matrices with QA findings/comments	Pragmatic Testers