

STATEMENT OF WORK



*SAP SRM Performance*

*Testing Services*

July 8, 2016

Lear Corporation

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## ORASI STATEMENT OF WORK (SOW) # QSF-0067000000lmYSZ

This Statement of Work (hereafter “SOW”) defines the scope of services to be performed by Orasi Software Inc. (hereafter “Orasi”) for Lear Corporation (hereafter “Customer”) subject to the terms of the Master Services Agreement (“Agreement”) entered into by Orasi and Customer on June 8, 2016.

# Article 1: Scope & Terms

Scope:

The scope of services performed under this SOW include those described in the Addendums of this document and any additional or new services to which the Parties mutually agree in a written Change Order. Provisions for extension of this SOW may be available by contacting the Orasi Services Delivery Manager who will process an appropriate Change Order.

Term:

Consulting Services will begin on a mutually agreeable date only after the execution of this SOW. Orasi requests a two (2) week lead time between the signing of this SOW and the start of services when feasible.

Investment:

The cost of the prepaid services is $42,120.00. Services are billed on a not to exceed basis and do not include any travel and expenses incurred by Orasi as a part of this effort. See Addendums for a detailed breakout of costs. Net payment will be due 30 days from the invoice date or as set forth in a current MSA/PSA.

# Article 2: Contact and Logistics Information

|  |  |  |
| --- | --- | --- |
| Customer Point of Contact | Orasi Services | Orasi Sales Executive |
| Bob McNally | Aymen Alaghbri | Erik Pena |
| SRM SAP IT Project Manager | AVP, SAP Consulting services | Director, Services Development |
| 21557 Telegraph Road | 7025 Albert Pick Road, Suite 300 | TownPark Drive, Suite 400 |
| Building #300 | Greensboro, NC 27265 | Kennesaw, GA 30144 |
| Southfield, MI USA 48033 | 336-580-4469 | 703-371-2414 |
| (248) 447-1876 | [aymen.alaghbri@orasi.com](mailto:aymen.alaghbri@orasi.com) | [erik.pena@orasi.com](mailto:erik.pena@orasi.com) |
| [rmcnally@lear.com](mailto:rmcnally@lear.com) |  |  |

|  |  |
| --- | --- |
| Services Location | Billing Address |
| Lear Corporation  21557 Telegraph Road Building #300 Southfield, MI USA 48033 | [Add if different for services location] |

# Article 3: Customer Responsibilities

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| --- | --- |
| # | Responsibility |
| 1. | When applicable, providing a copy travel policies and guidelines prior to Orasi consultants arranging travel. |
| 2. | Identifying a primary point of contact for the overall project. |
| 3. | Provide enough machines that comply with hardware specifications to be setup and used as standalone Load Generators machines located in location(s) where the Performance Load will be generated from against the application under test. |
| 4. | Provide detailed information on the selected business processes to generate performance oriented test cases during the design phase. This detail should include working steps that are detailed enough to not require application knowledge. |
| 5. | Provide at least 10 working test values for each business process documented that requires changing values for scripting and manual execution. The preferred format is CSV or XLS and the test data should be provided on the first week of the engagement. |
| 6. | Customer to provide all Master data for testing the full load & performance test. This quantity of data would be determined in the engagement, but often is 100’s or 1000’s of data to simulate a day in the life of production. Master data is data a system is populated with after conversion such as vendor numbers, product SKU’s, factory IDs, employee numbers, login ID’s, etc. |
| 7. | Customer to provide transactional data such as Purchase Order ID’s, Invoice ID’s, Quotes, etc. that need to be used during the performance test in XLS or CSV 5 days prior to the start of the full scale performance testing. Orasi can be requested to generate transactional data, but that request will add scope and require a change order. |
| 8. | If Onsite Engagement: Provide access to Internet for business related research for the assignment unless communication in advance is provided requesting the Orasi consultant to provide their own Internet access. |
| 9. | Providing Orasi consultants working onsite, and remotely when applicable, with workspace and/or access to conduct their activities. Consultant must also have access to necessary Customer applications, shared drives and document repositories when applicable. |
| 10. | Ensuring that software customer support services/maintenance for all software (including 3rd party software) to be used in the delivery of this statement of work is current and is accessible when needed by the Orasi consultant. |

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| # | Responsibility |
| 11. | Identifying and ensuring availability and participation of selected members of the Customer organization during the project. |
| 12. | Notify Orasi anytime sensitive and/or production data will be used for testing purposes. This is to allow Orasi to take proper measures to ensure security of the data. Testing applications within the production environment can result in system outages. Orasi will take reasonable commercial measures to minimize system outages when testing applications in the production environment. |
| 13. | Ensuring the Orasi consultants have security access privileges for buildings or areas granted prior to beginning this engagement. |
| 14. | Ensure the Orasi consultant has access to the Internet for corporate email, research and other reasonable project activities. |

# Article 4: Assumptions

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| --- | --- |
| # | Assumptions |
| 1. | All data models in the application database(s) are in place, the GUI for each application is in a stable state, any set of functional testing is completed, the business rules are complete and have been communicated to the Orasi team. |
| 2. | Access to all testing documentation, test cases (or requirements if test cases are not present), standard operating procedures for testing initiatives where applicable and preferably access to subject matter experts for the duration of the engagement. Failing this, may impact the scoped timeframes for the project. |
| 3. | Environment that is being used for test development and performance testing is dedicated to performance team. The environment should be stable and any code release changes should be on a published schedule. Any functional testing or changes should be done before scripting can begin. |
| 4. | Dedicated application (test) environments will be fully operational by the start of the engagement. |

# Article 5: Schedule Parameters

|  |  |
| --- | --- |
| # | Project Scheduling & Delays |
| 1. | Services are to be delivered during normal business hours Monday – Friday. |
| 2. | Prior Customer and Orasi approval is required for any time over 45 hours per week and/or weekend/holiday hours. |

|  |  |
| --- | --- |
| # | Project Scheduling & Delays |
| 3. | Scheduling issues may arise should the project dates slip. Orasi cannot guarantee a resource to a slipping project plan. |
| 4. | Any environment modifications including code changes, load balancers, network configuration changes, and data changes after script development has started can result in an extended schedule and may require more time in a change order to complete the project. |
| 5. | Orasi cannot be held responsible for delays or problems caused by:   1. Inaccurate information provided by customer. 2. Defects in third party software, including HP. 3. Lack of availability of required Customer resources such as subject matter experts. 4. Changes on the environment   If any of the above issues are present, Orasi will use reasonable commercial efforts to remedy the situation and minimize the impact on the Customer’s project and  objectives. However, delays caused by the above issues can reduce the effectiveness and efficiency of the services that Orasi provides and may increase costs. |

# Article 6: Travel and Expenses

|  |  |
| --- | --- |
| # | Responsibility |
| 1. | Orasi will make reasonable commercial efforts to comply with Customer’s travel policy if one is in place. |
| 2. | Orasi will make reasonable commercial efforts to control costs and adhere to travel and expense policies. Orasi’s ability to control costs is dependent upon having adequate lead time to make travel arrangements. |
| 3. | The customer will be responsible for travel and expense costs that exceed any maximum or set limits in situations where the Customer requests consultants to be onsite with less than two week’s lead time. |
| 4. | Customer will also be responsible for additional costs related to any changes requested by the Customer to the Orasi consultant's schedule (e.g., postponement of a previously agreed to engagement start date). |

# Article 7: Acceptance and Signatures

## Warranty and Indemnity

Orasi warrants to the Customer that the services will be performed consistent with applicable professional standards recognized in the industry. Orasi is responsible for the professional quality, technical accuracy, completeness, and coordination of the services. If Orasi fails to meet applicable professional standards, Orasi shall correct or revise any errors or deficiencies without additional compensation.

*NOTE: Orasi is not responsible for defects, shortcomings, or incompatibilities in software or hardware (third party products) related to the services provided in this SOW. Issues with third party products, including software, shall be referred to the appropriate vendor and product support arrangements made by the customer. The costs of resolving defects and issues in third party products are the responsibility of the vendor and the Customer, not Orasi. Orasi will make reasonable commercial efforts to assist in the resolution or remediation of any issues discovered, however, this may result in extended effort and costs that are unknown at the time of this estimate.*

## Review and Acknowledgement

Before Orasi consultants can begin delivering services under this SOW, Customer must sign this Statement of Work and issue a Purchase Order referencing this SOW, and the Consulting Services Agreement, if one is in place. Orasi shall not have any liability, whether based in contract, tort (including negligence) or any other legal theory, for indirect, consequential, incidental, special or punitive damages of any kind even if the parties have been advised of the possibility of such damages. Orasi’s maximum liability for damages arising out of or relating to this proposal, whether based in contract, tort, or any other legal theory, will not exceed the amounts paid hereunder for the particular Services giving rise to the cause of action.

## Signatures

The Parties’ authorized representatives have executed this Statement of Work by their signatures below:

Lear Corporation

By:

Orasi Software, Inc.

By:

Name: Name:

Title: Title:

Date: Date:

# Addendum 1: SAP SRM Performance Testing Services

Orasi Performance Testing Approach

Orasi consultant will work with the customer team to fully scope the load test, deliverables, application modules and hardware for system under test and create a performance test plan. The performance test plan will focus on the goals of the test and any limitations. According to Wikipedia (because there are many definitions in the world of performance), there are 6 core types of performance testing. They are Load Testing, Stress Testing, Endurance Testing, Spike Testing, Configuration testing, and Isolation testing. This SOW will define the goal types in the deliverables section. The SOW will likely not include scope for all types.

*Load Testing* refers to running the system at normal production loads and at Orasi we like to use the terms Low Capacity Load Test, Normal Capacity Load Test and High Capacity Load Test to indicate if the system is being run at low, normal, or high loads. The goal of a Load Test is to tell you the expected response times of the system at loads expected in production.

*Stress Testing* is focusing on the upper limits of the system. The goal of stress testing is to determine the bottlenecks that occur in the system.

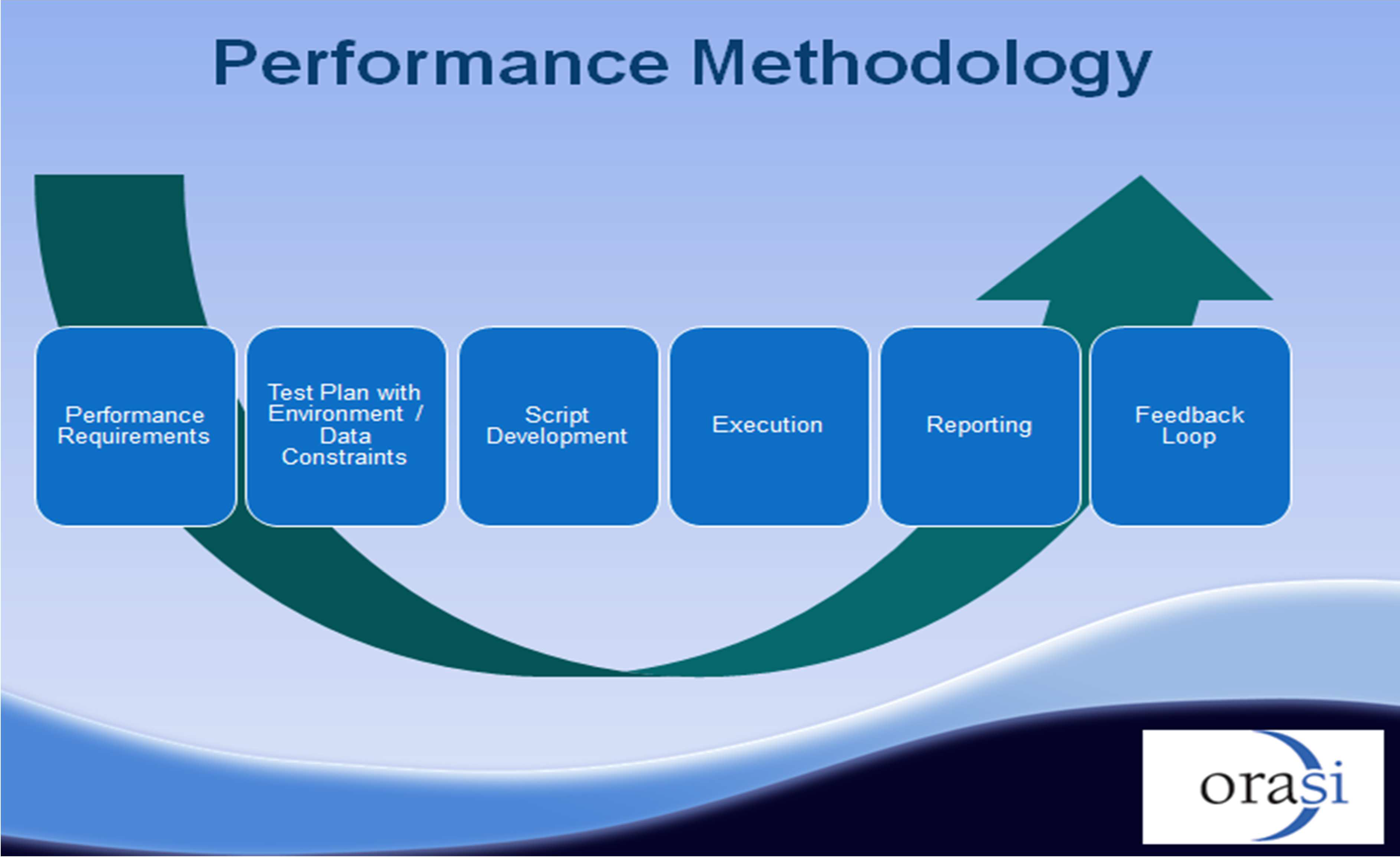
*Endurance testing* focuses on memory leaks and other stability factors a system can encounter from running at high capacity for extended durations. (Normally at least 6-8 hours, but possibly longer depending on the system under test.)

The idea of *spike testing* is if your business could get a short burst of traffic, can the system handle the burst. Our preference is to ensure the system can handle a sustained high capacity which is similar to spikes but for a longer test. We most often see requests for spike testing if specific business needs require it such as you are running an ad on black Friday or a super bowl ad.

*Configuration testing* is when you want to run the same performance test and analyze the impact of the configuration changes at the database, operating system, network, or application tiers.

*Finally Isolation and Tuning testing* is when we performance test a single function in the system to confirm its limits and possible contributions to a failure. You can also use isolation testing to test code based changes to help with a fault area.

It is important to realize that some types of performance testing such as a Normal Capacity Load Test can be completed in 1-3 weeks, while others such as configuration and isolation can take months to complete all the test cases. The addendum – engagement deliverables section will outline what types of testing Orasi consultants are going to perform. If we are running only Capacity testing, then the goal is to provide you with numbers that show the performance of your system. If you want to perform tuning, then you need to specifically request configuration testing or isolation and tuning testing. In addition we will need to either name a maximum number of configurations or test runs.



Performance Business Process Scripting

The SOW allows for up to a set number of business process test cases to be created, together developed with automated test scripts that will mimic the highest user oriented volume business transactions against the application under test. This limit is defined in the addendum 1 – engagement deliverables. The distribution of these available test cases and scripts will be made during the planning phase. A performance optimized test case and script is defined as a business process that doesn’t exceed 10 web pages/screens or 15 clicks/edits. The performance plan will be built from input from the customer.

Certain scripts may be replayed at a higher volume to achieve the overall hits per second required to mimic production and/or production + growth.

The scripts will be generated through “recording” the activity generated by executing the business processes manually through the user interface or programmatically such as web service calls. Having an accurate test case that works in the performance environment on the start of the engagement is essential for the success of the project. This is a customer responsibility and listed in the customer responsibilities section to provide support on obtaining such performance testing oriented test cases.

The initial recording will then be modified to allow for data parameterization and measurement of system performance through the insertion of “transaction markers” which measure the time between a request to the system and a response.

Following the creation and testing of the scripted business process suite with the data necessary to simulate daily system activity, scenarios will be created which consist of a specified combination of scripts executed by multiple “virtual users” (up to the Virtual User license limit) to mimic daily average and peak system load as well as any other critical load scenarios such as ultimate load failure.

These scenarios will then be executed to measure system performance both from a “system response time” perspective and a “system resource” perspective (e.g. CPU, memory, etc. as well as specific metrics pertaining to Diagnostics and the database servers). System bottlenecks can then be identified by correlating user activity in terms of transaction response time to system resource metrics during the analysis phase. Once bottlenecks have been identified and resolved, re-testing will occur to verify the effectiveness of system modifications and tuning.

## Engagement Activities

The activities for this engagement include the following. As the engagement progresses, new activities may develop or activities may be taken away if deemed appropriate for the success of the engagement. Any activity changes may require a change order if they alter the scope of work at the discretion of the Orasi Consultant performing the work. Activity changes need to be mutually agreed by the Customer and Orasi. If the swap is deemed equal or less work, an email from the Customer requesting the swap and a reply will suffice for the change. Any added scope will require a change request to be executed by Orasi and the Customer.

Some of these activities can be conducted onsite and/or remotely. Any remote work will require authorization and it will be the responsibility of Customer to provide the Orasi consultant with remote access capabilities.

The activities for this engagement include the following.

* Goal and Scenario Planning
* LR 12.53 setup and configuration
* Performance test cases creation
* Performance test case scripting
* Performance Test Scenario building
* Performance Test Executions
* Reporting

Business processes in scope for this performance testing effort listed below:

1. Sourcing Cockpit to PO
2. Part Number searching
3. Supplier Search
4. BPC - Plant Template Budget Upload
5. PO Approval / SAP inbox to Outlook
6. Work Order Validation

Load Generation to be created from the following location:

1. North America: 1 locations
2. Europe: 1 location
3. Asia: 1 location

Test scenarios in scope for this performance testing effort listed below:

* 1. Load
  2. Peak
  3. Stress
  4. Endurance

For the purpose of this performance test the number of virtual users login in to the application under test for the Load Test will be 200 virtual users and 400 virtual users for the Stress Test.

Performance Lifecycle Milestones

Performance Lifecycle

Activity/Task Deliverable Estimated Duration (hours)

Resources

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LR installation | * Upgrade to LR 12.53 | LR 12.53 | 24 | Performance |
| & configuration | * Controller Implementation | installed & |  | Engineer |
|  | * Load Generators Setup three (3) | configured |  |  |
|  | * VuGen Setup |  |  |  |
| Discovery & | * Information Gathering * Finalize the scope * Define monitored metrics * Create test case for defined business processes and scenarios * Define test plan, loads to be used, etc. * Generate Performance test plan | Performance Test Plan and in scope test cases | 40 | Performance Test Lead & Performance Engineers |
| Performance |
| Planning |
| Script | * Script Creation of 6 Business Processes where a business process cannot exceed 10 web pages or 20 clicks. * Creation of four (4) scenarios * Smoke tests for scripts and scenarios | Test Script Development six (6 )scripts Document and scripts | 96 | Performance Test Lead & Performance Engineers |
| Development |
| Execution | * Performance Tests four (4) scenarios * Extra scenarios depend on the results for the priority executions | Executed Test Test Results | 40 | Performance Test Lead |
| Reporting | * Analysis * Reporting | Final Test Analysis and Report of Findings | 40 | Performance Test Lead |
| Total Person | 240 | | | |
| Hours |

## Engagement Deliverables

|  |  |
| --- | --- |
| # | Deliverables |
| 1. | Test Plan (soft copy) |
| 2. | Performance test cases for the 6 tested business processes (soft copy) |
| 3. | AUT script development of 6 distinct business processes (soft copy) |
| 4. | Test Analysis and Reporting (soft copy) |
| 5. | Folder structure for general project files |

## Engagement Specific Customer Responsibilities / Assumptions

1. Provide access to SMEs to guide Orasi’s consultant into the creation of a performance test optimized test case.
2. All data models in the application database(s) are in place, the GUI for each application is in a stable state, and business rules are complete and available to the Orasi team as needed prior and during the engagement.
3. Environment that is being used for test development and performance testing is dedicated to performance team. The environment should be stable and any code release changes should be on a published schedule.
4. Customer to provide all Master data for testing the full load & performance test. This quantity of data would be determined in the engagement, but often is 100’s or 1000’s of data to simulate a day in the life of production. Master data is data a system is populated with after conversion such as vendor numbers, product SKU’s, factory IDs, employee numbers, login ID’s, etc.

## Estimated Engagement Costs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Role | Resource Count | Hours | List Rate | Discounted Rate | Total |
| Performance Test Lead | 1 | 160 | $200 | $180 | $28,800.00 |
| Performance Test Engineer | 1 | 80 | $185 | $166.50 | $13,320.00 |
| *Total* | 2 | 240 |  |  | $42,120.00 |

Important Notice:

The estimated engagement costs are dependent upon the assumptions documented above and the customer meeting the responsibilities described in this document. Delays, impediments, and rework caused by inaccurate information or failure to meet customer responsibilities will result in additional engagement costs or reduced scope of deliverables.